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# Tabulae Eclypsiū Magistri Georgij Peurbachij. Tabula Primi mobilis Jo: annis de Monte regio.

Indices præterea monumētōꝝ quæ clarissimi viri Studij Viennensis alumni in Astronomia & alijs Mathematicis disciplinis scripta reliquerūt. q̃ si lector hæc te oblectauerint: curabimus ut & alia in lucē bono Auspicio aliquando progrediantur.

Postremo vt nihil te: quod scitu dignum est prætereat: Inuentes studiosæ lector ex hoc diligenter impresso volumine mirum quendam & fecundissimū pluris tabularū: & pene omnium instrumentōꝝ: puta Astrolabij: Saphææ: Organi Ptolemæi: Meteoroscepij: Armillarū: Torqueti: Rectanguli: Quadrantū: & id genus alioꝝ (quæ recensere longū esset) usum & expeditam præcise. Sunt enī Theoremata tabulae Primi mobilis uniuersa: omni prorsus regionī accessibilia: ex scientia sphericā: triangulorū: transiunt: Nouarū insuper tabularū & instrumentōꝝ inueniendōꝝ: area latissima p̃spicacis ingenti uis oblatā est.

*Loci Sanctissimi*

*Caput Romæ*

## Coelum Tabella Stati.

*Loci Cappuccinorum Romæ*



Edicto Imperatorio vetitum est: ne quis in decēnio hoc insigne opus imp̃mat vel alioꝝ ductu & impensis excusum venditet: sub multa amissionis omnium exēplarū: & quinquaginta nūmorū aureorū pro singulis impressis vel venditis.



**Joachimi Nadiani De Sancto Gallo Poetae et  
Oratoris nuper Caesareis manibus laureati  
In laudem operis Epigrāma.**

Qui fragili censes morturam In corpore mentem  
 Huc ades: uerum carmine discere breui.  
 Arne uidet: quantas pernix discurras in artes!  
 Quamq; per occultas exolet orbis opes!  
 Non satis est terras, & quae terra terra, nosce!  
 Non satis aequoreas aereasq; uices.  
 Altius In sacros raptus progressa recessus  
 Et uicina deis sidera tractat humi.  
 Dumq; tenebroso membrorum carcere, clausa est  
 Maxima coelestis signa uisoris habet.  
 Quis neget aetherea nostras ab origine mentes!  
 Quis non diuinas, astrigeraq; potes?  
 Sydereos orbis: motusq; & corpora cœli  
 Lucida & aeternas perspicit arte uices.  
 Fortunata uiris isthac scrutantibus, olim  
 Et fuit & nunc est, docta uenia suis.  
 Qui docet & sequitur eos sine fine, & adest  
 Hos Collimiti prouida cura dedit.  
 Tanta ut ad astronomos ueritant monumenta nepotes  
 Et longo duret tempore partus honos.

**Tituli Canonū in tabulas Eclipsū Magistri Georgij Peurbachij.**

- 1 Tempus Oppositionis uel Coniunctionis mediæ luminariū: loci Solis: & Argumentū Lunæ & latitudinis eius media facile deprehendere.
- x Augem Solis Inuenire.
- 3 Tempus ueræ Coniunctionis uel Oppositionis luminariū facile cognoscere.
- 4 Medios motus Solis: Lunæ: Argumenti Lunæ: & Capituli draconis reperire.
- 5 Solem uerificare.
- 6 Lunam adæquare.
- 7 Verum locum Solis: Argumentum Lunæ æquatum: item argumentum Latitudinis Lunæ æquatum ad instans ueræ Coniunctionis aut Oppositionis breuiori uia inuestigare.
- 8 Tempus utilis Coniunctionis: atq; diuersitatis aspectus in latitudine ad idem tēpus indagare.
- 9 Loca Solis & Lunæ ueræ: & argumentū latitudinis uerū ad ipsos utilis Coniunctionis Inquirere.
- 10 Latitudinē Lunæ usam tempore utilis Coniunctionis periclitari.
- 11 Si Eclipsis Solis in Coniunctione fiat cognoscere: & quantitatem eius & durationem: Principiū quoq; et finem ex tabulis calculare.
- 12 Latitudinem Lune usam ad principium atq; finem eclipsis inuestigare.
- 13 Semidiametros Solis & Lunæ uisuales ac umbræ in loco transus Lunæ demonstrare.
- 14 Quantitatē partis obscuratæ: ac totius eclipsis solaris figurā ad usum depingere.
- 15 Quantitatē eclipsis Lunæ: durationē eius: principiū quoq; & finem ipsius discernere.
- 16 Latitudinem Lunæ ueram ad initium Eclipsis Solis & ad finem eius ostendere.
- 17 Eclipsis Lunarū habitudinem in plano figurare.
- 18 Eorum quæ de eclipsis Solarī dicta sunt exempla subicere.
- 19 Ea quæ de eclipsis Lunæ dicta sunt exemplo declarare.

Fini Registrī Canonū tabularū Eclipsū Magistri Georgij Peurbachij.

# Registrum Canonum Tabule Primi mobilis Joannis de monte regio Wiri disertissimi.

## Problema

## Primum



### Generalem tabule usum in primis explanare.

- 1 Cuiuslibet puncti eclipticæ declinationem ab æquinoctiali circulo (si quam  
2 habeat) inquirere.
- 3 Proposita declinatione solis quilibet: cui puncto eclipticæ correspondeat  
4 ipsa explorare.
- 5 Latitudinem lunæ inuestigare.
- 6 Cuiuslibet arcus eclipticæ ab æquinoctiali sumentis Initium Ascensionem  
7 in sphaera recta numerare.
- 8 Ex ascensione recta propoſita ab alterutra sectionum æquinoctialis Initium sumente arcum eclipticæ sibi debitum indagare.
- 9 Si quis arcus eclipticæ ascensionem suam equaverit altero termino eius cognito reliquum quoque manifestare.
- 10 Punctum eclipticæ terminantis arcum qui ascensionem suam rectam quædam superat invenire.
- 11 Data congerie ex arcu eclipticæ & ascensione sua recta / utriusque arcus discernere.
- 12 Amplitudinem ortuum cuiuscunque puncti eclipticæ ab æquatore declinantis in omni horizonte computare.
- 13 Ex amplitudine ortus supposita punctum eclipticæ cui ipsa debetur agnoscere.
- 14 In omni regione arcum diurnum puncti eclipticæ quodcunque dederis numerare.
- 15 Quod præcedens de punctis eclipticæ pollicetur / alla ratione scrutari.
- 16 Si diem longissimū in regione quapiam cognoveris: quo pacto latitudinē eius invenies edocere.
- 17 Cuiuslibet arcus eclipticæ a sectione vernali indipientis ascensionem obliquam in regione quacunque dimetiri.
- 18 In omni regione ex data ascensione obliqua ab altera sectionum Inchoata arcum eclipticæ sibi debitum inuestigare.
- 19 Altitudinem solis supra horizontem existentis in omni regione omniq; hora pendere.
- 20 Sole in aliquo signorum borealium existente / altitudinem eius in circulo verticali explorare.
- 21 Distantiam solis horizontalem a circulo verticali cognoscere.
- 22 Angulum ex coincidentia eclipticæ & meridiani / qui apud quodlibet ipsius eclipticæ punctum provenit inuestigare.
- 23 Angulum ex concursu eclipticæ & horizontis procreatum indagare.
- 24 Quantitatem anguli ex eclipticæ & circulo altitudinis provenientis addiscere.
- 25 Quod præcedens pollicetur / aliter comprehendere.
- 26 Angulum nuperrime tractatum alla ratione sciscitari.
- 27 Gradum ascendentem / aut punctum eclipticæ orientale in omni regione / & omni hora per hanc tabulam inuestigare.
- 28 Si quis ascendente in regione qualibet habuerit: quo pacto medium cæli inuestiget manuducere.
- 29 In omni regione elevationē solis supra horizontē quacunque hora data alter quæ superius dinumerare.
- 30 Arcum horizontis quem abscondit ex eo circulus horarius deprehendere.
- 31 Arcum circuli verticalis quem horarius quilibet ex eo secat circulus dimetiri.
- 32 Angulos horarios in plano super meridianū quidē erectos ad horizontē autē inclinato describere.
- 33 Si planum aliquod horizontē quidē ad rectos secet angulos / ad meridianū autē inclinatum fuerit: angulos horarios in eo provenientes ministerio numerorum addiscere.
- 34 Plano aliquo tam ad meridianum quæ ad horizontem inclinato: quibus rationibus angulum quæque horarium agnoscamus breviter exponere.
- 35 Data ascensione obliqua cuiusvis nodi arcus eclipticæ ab ariete aut libra deducti: latitudinē regionis ubi talis contingit ascensio indagare.

- 34 Proposito arcu edyptice altitudinē q̄ ab alterutra æquinoctiali sectione exorsio cum ascensione sua obliqua: altitudinē poli aquilonis in ea regione ubi talis obliqua ascensio accidit emetiri.
- 35 Dato gradu moduli cœli cum amplitudine ortua ascendentis: ascendente ipsum latitudinē q̄ regionis (si quam habuerit) inuestigare.
- 36 Ex medio cœli dato: ac ascendente cognito latitudinē regionis elicere.
- 37 Cognita latitudine alicuius regionis: in quanto tempore quilibet arcus edyptice borealis datus circulum verticalem pertranseat experiri.
- 38 Duabus regionibus idem eodem instanti ascendens notum habentibus: puncta autē edyptice in meridianis suis diuersa & cognita: utriusq̄ latitudinē differentiaq̄ longitudinē suarū p̄c̄uari.
- 39 Si duæ quæuis regiones notarū latitudinū eodem instanti cōmune quoddā ascēdens cognitū habuerint: quantū longitudinibus earū intersit spacium explicare.
- 40 Si duarum regionū latitudines notæ fuerint: cum differentia longitudinū suarum: an sit aliquod ascendens eodem instanti ipsis cōmune subtiliter explorare.
- 41 Duabus regionibus notas latitudines longitudinesq̄ aut differentiam longitudinū suarū cognitā habentibus: ac in ascēdente quopiam cōmunicantibus: ascendens ipsum cōmune sciscitari.
- 42 Quantum eleuatur polus borealis super circulum positionis stellæ cuiusvis: aut alicuius puncti in cœlo signari perquirere.
- 43 Data eleuatione poli borealis supra semicirculum positionis quempiam: quantus sit arcus æquatoris ab eodem semicirculo & meridiano interclusus experiri.
- 44 Cognita portione circuli verticalis clausa inter polum horizonis & circulum positionis quemcūq̄ quantū polus borealis supra eundem circulū positionis eleuatur: quantus dinoscitur arcus æquatoris inter meridianū & eundem circulum positionis comprehensus inquirere.
- 45 Duobus locis in superficie terrestri signatis/longitudinū latitudinūq̄ notatarum: quo pacto interea pedinem eorum metiri debeat explanare.
- 46 Datis latitudinibus duarum regionum inæqualibus cum angulo positionis: differentiam longitudinum suarum indagare.
- 47 Diuersitatem asc̄ & desc̄is lunæ in circulo altitudinis perquirere.
- 48 Diuersitatem aspectus lunæ tam in longitudine q̄ in latitudine persequari.
- 49 Minuta casus in defectione solari supputare.
- 50 Punctum flexionis tenetiarum in edyptibus determinare.
- 51 Cognito loco uero stellæ fixæ siue erraticæ cum eius latitudine declinationē suam ab æquinoctiali circulo sciscitari.
- 52 Punctum edyptice cum quo stellæ quælibet cœli mediat cōmonstrare.
- 53 Declinationem stellæ cuiuslibet aliter q̄ antehac traditum est indagare.
- 54 Punctum cœli meditationis alia quadam ratione persequari.
- 55 Per datam stellæ declinationem/punctūq̄ edyptice cum quo ipsa cœli mediat: latitudinē suam ac uerum locum in edyptica cognoscere.
- 56 Cognita latitudine cuiuspiam stellæ: punctūq̄ cœli meditationis explorato: locum eius uerum in edyptica/declinationēq̄ ab æquinoctiali circulo perquirere.
- 57 Punctum edyptice quo cum stellæ quælibet oritur: itēq̄ p̄c̄tum cum quo occidit in quauis regione artificiose rimari.
- 58 Per altitudinem stellæ cuiuscūq̄ & distantiam horizontalem a meridiano atq̄ medium cœli/declinationem ipsius stellæ & punctum edyptice cum quo cœli mediat: indeq̄ latitudinē & uerū locum eius in edyptica subtiliter indagare.
- 59 Si uera loca duarum stellarum fixarum cognita fuerint cum latitudinibus suis: intercapelinē earū agnoscere.
- 60 Radiorum protectionem rationabiliter definire.
- 61 Intervallum apparitionis aut occultationis stellæ persequari.
- 62 Aequationem octauæ sphaeræ s̄m Alfonso fundamenta numerare.
- 63 Aequationem octauæ sphaeræ s̄m considerationem Tebith supputare.

Finis Registri Tabulæ Primi mobilis Ioannis de Montemaglo

**Præstantissimo viro D. Thomae Resch Philosopho  
 Poetae Theologo: & ecclesiae cathedralis Viennensis  
 Canonico Georgius Tannstetter Collimitius  
 Lycoripensis Artium & Medicinæ doctor.  
 Studijq; vniuersalis Viennensis  
 in Astronomia professor  
 ordinarius. S. D. P.**



Dituro mihi consummatissimū opus tabularum eclipsum Magistri Georgii  
 Peurbachii: nemo mihi omnino occurrebat: cui rectius id ipsum dicere uideret  
 q̃ tibi Thoma compater doctissime. Eras enī antea: cum bibliotheca facul-  
 tatis artium præfectum ageres: nobis in faciunda exemplaris copta: quo ad  
 hanc editionem potissimū usi sumus: perq̃ sedulus adiutor. Et cum tuæ pro-  
 fessionis ratio id postulare: præ cæteris ingenus studitis: in quibus Encyclo-  
 pædiam absolulisti Mathematicis disciplinis studiosissime semper incubulisti  
 Barq; cultores adeo amplexusimo demistratus es: ut quas artes omnino pri-  
 mū obseruare: facile scire possent hi qui te unq̃ nouere. Nolo ego hoc in lo-  
 co recensere: qua humanitate: qua beniuolentia: qua munificētia me semper  
 profecurus fueris. excrefoet enim epistolæ ratio: & a proposito cōsilio nimis diuertendum foret. Pro-  
 inde cum Andream Stiborium præceptorem adeo ames: adeo semper extollas & cōmendes: eiusq; con-  
 fuerudinis studiosissimus sis: & multis iam annis fueris: quis nō colligat: te me amare: qui a preceptoris  
 nostri ultia & eruditione pro uirili mea nō libens unq̃ abfui. Suscipe igitur præstantissime Thoma iani  
 primum prælo excusas tant Mathematicæ tabulas: quas Ioannes de monte reglo authoris discipulus:  
 (dum in humanis fuit) Waradensi episcopo dicauerat: & Waradienses tabulas appellauit. Quas la-  
 boribus hercule non parulis reuistas & emendatiores factas emissimus sub tuo nomine: eo maxime q̃ in te  
 patronum habituræ essent: qui de actoribus respondere examissum posset: si qui emergerent: ut cer-  
 te emerituros non dubito: præsertim q̃ opus hoc exemplaribus alibi exscriptis: multis admodum est no-  
 tum. Ne tamē pleriq; sciolos portus q̃ eruditi proteritis & alibi notis: inos nostri gymnasi gloriam ex Ma-  
 thematicæ studiis astruere uelle existimarēt: breuissimū cathalogum eruditissimorū mathematicorum:  
 quos uenustissimum Germaniæ Viennense gymnasium summo cum honore & immortali gloria aluit:  
 cum his quæ scripsere: huius litteris subnectendum duxit. Ut optimus quisq; diducare posset: quanto in  
 errore sint isti: qui Viennensi gymnasio: ut obscuro & tepescēti diligentia parum tribuere solent. Si  
 enim tot Indyti utri in hac una professione & perq̃ alloquin rara hic florere: quis & in reliquis pleroseq;  
 non floruisse asserat? Verum hæc mi Thoma & tibi & his qui tui sunt similes perpendenda relinquo.  
 quos nostrum hoc institutum in edendis codicibus ad cōmunē utilitatē pbaturos sat scio. Vale bene.  
 Vienna Austria Septimo Idus Ianuarias. Anno Christi supra sequentis millesimi decimo quarto.

**¶ Viri Mathematici quos inelytū Viēnense gymnasiū  
ordine celebres habuit.**

**H**enricus de Bassia Germanus Vir undeciq; doctissim⁹: ex utro  
tutissimo parisiensiu studio pri-  
mas omnū mox a primeua nostri studii Viēnensis fundacione Theologiā Astrono-  
miam & alias artes nobilissimas inuexit. Theologiā cū Henrico de cyta theologo ce-  
lebrissimo prim⁹ docere coepit. Sed q̄ p̄fundas & subtilis in Astronomia fuerit libet  
prim⁹ suarū cōmentationū in genesiū facile testat. Vel hoc etiā q̄ doctissim⁹ astro-  
nomorū Parisius Ioannis de linetis german⁹: & Ioannis de saxonia contemporaneus  
erexit. Scripsit theoricas planetarū: & alia quedā in astronomia. In theologia opera multa & p̄dara: q̄  
Viēnz in bibliotheca collegii ducal' reposita sunt. Obiit anno Christi. 1397. Tertio Idus Februarii. In  
ecclesia cathedrali Viēnensi honorificentissime sepultus. Cui & collegæ suo Henrico de cyta hoc epi-  
taphium sub insigni pictura positum est.

Hic sua busta tenent fidel' firmissima quondam  
Luminaria diuinū quæ sonuere melos.  
Quiq; dia docuere deum sub numine trino  
Solum: cui scabeant quicquid in orbe uago est.  
Ingentium patrem natiq; & pneumatis ignem  
Quo duce succendit pectora uerus amor.  
Sacta Viēnensi Cathedra qui dogmata patrum  
præfatuscunctis scripta dedere plagis.  
Iamq; deo quem tuum torques cecidere fruunt  
Viveat & eterno phœma parata simul.

Kalendarium quod multis sequentibus annis utilis erat & luculentissimū.

Tabulas uarias de parte proportionalli.

Libellum de arte calculandi in minutis phisicis.

Equatorium motuū planetarum ex Campano transumptum.

Compositiōnem Astrolabi: & utilitates eiusdem: & quorundam aliorum instrumentorum.

Habuit discipulos plures egregios: quorum uetusitas nomina aboleuit. Hic unicus Georgij prunet ex  
Ruspach studiosissimas astrorum obseruator pulcherrima instrumenta & libros quosdam collectos post  
se reliquit: quæ in bibliotheca præfata hodie cernuntur.

Circa hæc etiam tempora uenerabilis illis Georgius præpositus Neoburgensis: & Ioannes Schintels  
et Ioannes Feldner Artium magistrī uaria & lucunda quiddē in astronomia elaborauerunt.

**G**EORGIVS EX PEVRBACH In limitibus bauariæ & Austriæ natus. Artū & phisicā  
magis studii Viēnē. In collegio eius collegæ. Præceptor Ioannis de mōre regio Viēnz notus  
astronomie ist' uirator: moruit iperare gl'iosissimo Rōnorū impatore Friderico tertio Archiducē  
Austriæ. Qui & a p̄fato dñio impatore: & Sigismūdo alero archiduce austriæ anno est doctor  
stipēdiō: & a Reuerēdissimo cardinalē patriarcha cōstātinopolitano D. Bessarione idē illic le-  
gati ageret: ob eius doctrinā excellentiā summa ueneratione habitus. Morit' obiit nondū q̄dragesimus  
Anno Chri. 1467. Sexto Idus Aprilis. In ecclesia cathedrali uīenā: hoc sibi inscripto epitaphio sepultus  
Erdū. Tum dulces quidam me steris amik.

Fata uocant. Lachris sic sua fila trahit.

Scripsit hic celebrissimus uir uaria opuscula & præclarissima. sed quæ ad nostrā noticiam peruenere: idē  
Ilgenda D. Andreæ Stiboril' conquisita sunt hæc

Sex primi libri Epithomæ Almagesti.

Collectio tabularum primi mobilis & quarundam noua compositio cum singulari usu,

Canones Astrolabi.

Introductorium in Arithmeticam.

Extensio Organ' Ptolemæ pro usu horarum germanicarum ad omnia climata cum demonstracione.

Canones Gnomonis cū noua tabula pulcherrima.

Cōpositio Cōpasti cū regula ad oīa climata.

Compositio nouæ uirgæ ufortescum lineis & tabula noua.

Instrumētū quod uis cōiunctionibus solis & lune. In quo uetus instrumentū de insufficientia tazat.

**IOANNES DE GVMVDEN** Anno  
Christi. 1406. in liberaliū artium & philosophiæ  
magistrū Viēnz promōtus Astronomiā docuit  
et sacre Theologiæ operā dedit. Dedit de suarum  
uirutū & doctrinæ merito canonicatū in ecclesia  
S. Stephani: & eiusdē studiū uice: & clarissū aliq;  
bñificia ecclesiastica adept⁹ est. Morit' anno christi  
1442. In ecclesia cathedrali Viēnē sepult⁹. Scripsit  
hæc: q̄ adhuc in bibliotheca facultatis artiū extit.  
Tabulas de planetarū moribus: & luminariū ecli-  
psibus: uerissimas ad meridiano Viēnensiū. ita

Canones in tabulam tabularum.

Tractatum sinuū.



Noua tabula finus de decē minutis in decē per multas millenarias partes scilicet usu: quæ plurimam rerū nouarum in astronomia occasio fuit.

Modus componendi & demonstrandi tabulam altitudinis solis cum tabula ipsa.

Modus describendi horas ab occasu in pariete.

Tabula æquationis motus planetarū nouæ secundum perfectæ & ad ultimū completæ.

Tabula noua proportionis parallelorū ad gradus æquinoctialis cum compositione eiusdem.

Tabula noua stellarum fixarum.

Almanach perpetuū cum canonibus reduxit ad nostra tempora.

Plura de quadrantibus.

Calculauit & almanach pro annis pluribus. Fecit sparas solidas & alia plura instrumenta.

**IOANNES DE MONTE REGIO FRANCES**, Germaniæ decus. Artium & philosophiæ magister in astronomia & in omni arte mathematica ita excelluit nouis artis princeps ab omnibus habetur. A potētissimo rege ungarie Mathias cui tabulam primi mobilis inscripsit: & aliis Reuerēdissimis p̄fati regni ep̄is quibus alias tabulas & instrumenta dedit: annuo stipēdio prædicosissimis uelutibus: aliisq; liberalissimis muneribus remuneratus est. Ad Nurembergā deinde p̄fectus magno honore a ciuibz suscipit. Et postremo ob Calendarii nostri emendationē a Sixto quarto p̄fice inuadit: mox in urbem uocat. ubi rebus infectis febre pestilentiali reuelat (ut alii asserunt) ob inuidiam a Georgio trauesuensi filius ueneno interemptus est. Monumenta quibus nomen suum per uniuersam fere Europā transmissit sunt hæc.

**Index operum Ioannis de Monte regio: quem dum in humanis erat imp̄tini curauit: huc secundario appressus.**

**Aliena.**

**T**heoricæ nouæ planetarum Georgii peurbachii Astronomi celebratissimi cumfigurationibus oportunis.

Marcis mariti astronomica.

Hæc duo explicita sunt.

Cosmographia Ptolemæi noua traductione. Nam uetula ista Iacobi angeli florētini: quæ nūq; habetur: uelutiosa est interprete ipso (bona uenia! dictum fuerit) neq; linguae græcæ satis neq; mathematicæ noticiam tenente. Quæ in resummi arbitris fidem haberi fas erit Theodoro gaze clarissimo uiro ac græcæ latinæq; doctissimo: & Paulo florentino græcarum quidē haud ignarot in mathematicis autē plurimū excellenti.

Magna compositio Ptolemæi: quam uulgo uocant almagestum noua traductione.

Euclidis elementa cum anaphoricis Hypsiclis editione Campani: cuius tamen plerisq; mendis: quæ proprio etiam indicabuntur cōmentariolo.

Theonis alexandrini clarissimi mathematici cōmentaria in Almagestum.

Procli sufformationes astronomica.

Quadrupartitum Ptolemæi & Centum fructus eiusdem noua traductione.

Iulius firmicus quantus reperitur.

Leopoldus de Austria. & si qui alii prædictores astrologici illustratione digni uidebunt. Nam Antonii quoq; de montibus: quos fragmenta in usum multiplicem exponuntur.

Archimedis geometricæ acutissimi opera de sphaera & cylindro. De circuli dimensione. De conalibus & sphaeralibus. De lineis sphaeralibus. De æquiponderatibus. De quadratura parabole. De harenæ numero: cui cōmentariis euclidis asseoluita in ista opera ex prædictis: scilicet de sphaera & cylindro de dimensione circuli: de æquiponderatibus. Traductio est Iacobi cremonensis: sed nō nūq; emendata.

Perspectiua Vitelonis opus ingens ac nobile.

Perspectiua Ptolemæi.

Musica Ptolemæi cum expositione Porphyrii.

Mendat sphaerica noua editione.

Theodosii sphaerica. Item de habitationibus. De diebus & noctibus noua traductione.

Apollonii pergens conica. Item Sereni cylindrica.

Heronis inuenta spiritalia Opus mechanicum mira uoluptatis.

Elementa arithmetica Jordanii.

Data eiusdem arithmetica.

Quadrupartitum numerorum: opus natis scatis argutis.

Problemata mechanica Aristotelis.

Hygini Astronomia cum deformatione imaginis coelestium.

Facta preterea est arbor rhetorice tullianæ speciosa imagine.

Et fiet descriptio totius habitabilis notæ: quam vulgo appellant Mappam mundi. Cæterum Germaniæ particularis tabula. Item Italiæ: Hispaniæ: Galliæ: uniuersæ: Græciæq;. Sed & suas cuiusq; historias ex auctoribus plurimis cursim colligere statutum est: quæ uidelicet ad montes: quæ ad maria: ad lacus amnesq; ac alia particularia loca spectare uidebuntur.

## Opificis tēta

Quæ essent ne prodenda an non ipudor ingenuus & Respublica litteraria dū inter se discorpare.

Ratio audendum censuit.

**A**LENDARIVM NOVVM Quo p̄missi cōfessiones veræ atq; oppositæ iuristi itēq; eclipses eorū dē figuratæ. Loca iuristi uera quotidie. Horarii tã æquinoctiali q̄ tpali discriminata duplici instrumēto ad quatuor habitationes. Ac alia plurima scitu lucidissima.

Sphærides quis uulgo uocit Almanach ad triginta duos annos futuros. Vbi quotidie inueneris ueros motus omnium planetarū: capitisq; draconis lunaris: una cū aspectibus lunæ ad solem & planetas. Horis etiā aspectus eorū dē haud frivole adnotatis. Neq; planetarū inter se aspectibus prætermittis. In frontibus paginarum posita sunt indicia latitudinū. Eclipses deniq; lunæ natis (siquæ futuræ sunt) locis suis effiguntur.

Hæc duo opera tam absoluta sunt.

Cōmentaria magna in Cosmographiæ Ptolemæ: tribi exponit fabrica usq; instrumētū Metheoroscopis: quo Ptolemæus ipse uniuersos ferme numeros totius op̄is sibi elicit. Falso enī quispiā crediderit tot longitudinū latitudinūq; numeros p̄ supernarū obseruationes innotuisse. Preterea descriptio sphaeræ æræ millaris: una cum tota habitabili in plano ita dilucidatur: ut pleriq; omnes discere queant, quam nemo antea latine intellegit: utro traductoris obstante.

Cōmentarioli singulare cōtra traductionē Iacobi angeli Florentini. quod ad arbitros mittetur.

Theonis alexandrinū desensio in sex uoluminib; cōtra Georgiū trapezuntinū: ubi plane quis deprehēdet frivola eius esse cōmentaria in Almagesti: traductionēq; ipsam op̄is Ptolemæi uito nō carere.

Cōmentarioli quo cōmonstrant placita Cāpani ex editione elemētōrū geometricorū relienda.

De quinque corporibus æquilatis: quæ uulgo regulatæ nuncupantur: quæ uidelicet eorū locum inpleant corporalem: se quæ non: contra cōmentatorē Aristotelis Averroem.

Cōmentaria in libros Archimedis eos qui Eutocii expositione carent.

De quadratura circuli: contra Nicolaum cusanem.

De directionibus: contra Archidæconū parmensē.

De distinctione domitiorum coelæ: cōtra Campanum & Ioannem gazolum ragusinū: cuius & alia de horis temporalibus decreta ibidem retractantur.

De motu octauæ sphaeræ: contra Tebith suosq; sectatores.

De instauratione calendarii ecclesiæ.

Breuiarium Almagesti.

De triangulis omnimodis quinque uolumina.

Problemata astronomica ad Almagestū totum spectantia.

De Cometæ magnitudine remotioneq; a terra. De loco eius uero &c.

Problemata geometrica omnimoda Opus fructuosæ iucunditatis.

Ludus pannoniensis: quem alias uocare libuit Tabulas directionū.

Tabula magna primi mobilis: cum usu multiplici: rationibusq; certis.

Radii usorii multorum generum: cum uisibus suis.

De ponderibus & aqueductibus: cum signationibus instrumentorum ad eas res necessariorum.

De speculis usorioris atq; aliis multorum generum usq; stupendi.

In officina fabrilī ASTRARIVM ī cōtinuo tractatu est. Opus plane p̄ miraculo spectandū.

Fiunt & alia instrumenta astronomica ad obseruationes coelestium. Itēq; alia ad usum uulgarem quotidianum: quorum nomina longum est rectare.

Postremo omniq; artē illā mirificā litterarū satmātrix montimēnsi stabilib; mandare decretū est. (deus bone fauces) Quæ re explicata: si mox obdormierit op̄is: mors acerba non erit: quoniam tantum manus posterus in hereditate reliquerit: quo ip̄i se ab inopia librorū perpetuo potuerunt vindicare.



**C**Hi duo utri celeberrimi Astronomi nobilissimi disciplina & memoria hominū pene obliteratā magnifice restituerūt. Reliquit post se utros doctos & excellētes in astronomia Magistrū Henricū Seidner. Magistrū Eberhardū Schlesinger. Magistrū Ioannē dephortzī philosophū Astronomū & Theologū insignē. Magistrū Ioannē de kupferberg. Ioannē dorū eorundem instrumentorū elaboratorē artificiosissimū. Hic postea ordinē fratrum predicatorū ingressus ibidem varia instrumenta ex aere nouiter uero sphaera solidas tres mirae magnitudinis diligenter elaborauit. Vixit hic frater Ioannes in monasterio fratrum predicatorū usq; in annū christi. 1509. ubi magno confectionis senio quiescit in pace.

**CHRISTANNVS MOLITORIS EX CLAGENFVRT** Artium & philosophiæ magister nostri studii Astronomus insignis. Qui prognosticis suis magnam sibi gloriā præ cæteris suis ætatis astrologis comparauit. Scripsit in astrologia certa opuscula: quæ apud doctos magno in precio habent. Obiit Viennæ ex peste Anno christi. 1495. Habuit discipulos multos. Inter quos magister Ioannes fabri ex Weissenburg non parū præfatus uidet. qui & Christophorū fabri eius cognatum Artium & philosophiæ magistrū in astronomica disciplina egregie instituit.

**IOANNES MVNTZ EX PLABEIRN** Artium magister. Sacræ theologiæ baccalaureus formatus: & ecclesiæ cathedralis Viennensis canonicus: in Astrologia ita excelluit: ut nulli sua ætate secūdas iure distimari posset. Scripsit prognostica a stellis sumpta: quæ præ aliis oib; tūc in prelo erāt. Obiit aſit hic uenerandus uir Viennæ Anno christi. 1503. Tertio nonas Decembris in ecclesiā cathedrali sepul.

**IOANNES STABIVS AVSTRIACVS** Vates & poeta. Cæsareæ maiestatis Cosmographus & historicus. Vir omnifariā eruditus: & in nouarū rerū inuentionib; felicissimū ingeniū. Cui perarū inuētū Inuētis & illustris. Cæsar Maximilianus quotidie oblectatur. Et eius Striborij (de quo paulo infra dicā) ingenia miratus: lectiones publicas in astronomia & mathematica Viennæ nouo stipendio instituit. Inter cætera nobilissima ei inuēta mathematica hæc a me discipulo suo collecta sunt. Horoscopia uniuersale in lineis helicis Opus mirandum.

Horoscopia item uniuersale in lineis columnaribus.

Instrumentum ascendens cum domibus & stellis fixis ad diuersas elevationes.

Instrumentum horometrum ad omnia climata cum uario usu.

Cōpositio Methereocopti pro acceptā longitudine ciuitatis ignota: cōpōdiori usā q̃ Ptolemæus hēt.

Compositio uariarū projectionum uniuersalium Ptolemæi pro toto globo.

Varia chartæ chorographica: propria peregrinationis illustratione depicta.

Descriptio uariorū modorū pingēdi tabulas cosmographica: Ptolemæi ex ueris præcipis artis picturæ.

Modus distancias miliariorum inter diuersa loca uariis instrumentis mensurandi.

Modus constituendi tabulas cosmographica: quo tam ab uno loco q̃ ad diuersa ad diuersa loca distātia miliariorum rite inueniatur.

Cōstitutio tabulae cosmographica: sub quo gradu signi: & cuius planetæ disto quib; hīratio sit subiecta.

Modus faciendi horologium lunare ad quancūq; elevationem & superficiem in lineis helicis

Et alia plura lucundissima mathematica. In reliquis deniq; artibus uir subtilis & penetrantis ingenii Carmine & prosa plura & pulcherrima molitur: quibus se aliquando posteritas oblectabit.

**ANDREAS STIBORIVS BOIVS** Philosophus Mathematicus & Theologus acutissimus. Ecclesiæ cathedralis Viennensis canonicus. Mathematici multis annis publice cū magna sua gloria: & deniq; maxima suorum discipulorum utilitate professus est. Eius ingenii excellentia ex his operibus quæ subscripto indice continentur: quæ & adhuc deo uolente parabitur: facile probabitur.

### **¶ Index lucubrationū eiusdē magistri Andree Stiborij Boij præceptoris mei.**

Opus umbratū quinque libris partialib; diuisum. In quo diuersarū plectionū speculationes instrumenta et horologia noua cū uariis circulis sphaere ad diuersas elevationes & superficies comprehenduntur.

Libri instrumentorū astronomicoꝝ primi & secūdi mobilis: cū canonicis propriis & ueteribus.

Clypeus austriacus cum canonicis. In quo astrologici facies omni momento reuert.

Libellus de uariis horologis sphericis: concavis: columnaribus: pyramidalibus: annularibus.

Libellus de uariis compasis.

Libellus de uariis quadrantibus.

Introductio in sensibilem philosophiā cū uariis astronomiciis picturis & calendario astronomico.

Arma pictatis Stiborii.

Contemplatio scone.

Contemplatio faciei saluatoris.

Libellus de auctoribus mathematicis.

Præfationes in libros diversos in mathematica a se publice professos.

Determinationes quarundam questionum de quolibet.

Libellus primi mobilis quadripartitus: geometricæ arithmetice: exemplariter & instrumentaliter &c.

Contemplatio speculi planetarum.

Contemplatio de diversis matrimoniis.

## Index vetustissimorum exemplarium magistri Andree Stiborij Boij.

### In perspectiva.

**I**telonis ingens & consummati opus.  
Alhaen auctorem perspective.  
Bachonis rogerii perspective singularis.  
Bachonem de specibus.  
Eundem de loco stellarum.  
Alius liber de loco stellarum singularis.  
Libri de iride demonstratiui & consummatissimi.  
Balneolum de centro usui.  
Librum de speculis uisitoris secretum.  
Bachonem de eisdem.  
Balneolum de foramine triangulari.  
Eundem de finibus & chordis optimis.

Theorice campani opus singulare.  
Theorice henrici de hassia.  
Demonstrationes campani super theoricis.  
Reprobationes epicyclorum.  
Ptolemeus de arte spherica.  
Euseus de ascensionibus.  
Abhomadi de nubibus.  
De figura sectoris.  
Canones Ioannis de monte regio super albione.  
Eiusdem super astrolabio.  
Eiusdem super Torqueto.  
Eiusdem super quadrato geometrico.  
De ualore triangulorum liber antiquissimus.

### In Geometria.

Eucledis cum antiquissimo commento incerti auctoris.  
Geometria cõmensuratoris absolutissimi opus.  
Dominicum parisiensem de cõmensurationibus.  
Quadraturam circuli Cusei Archimedis et aliorum.  
Cusam de transmutationibus figurarum.  
Idem de complementis theoricis.  
Liber Geometrie quadripartitus singularis.  
Quadratum geometricum cum canonibus & tabulis Georgii peurbachii.  
Demonstratio linearum semper approximantis  
et nunquam concurrentium.

Quadripartiti numeri opus consummatissimi.  
Arithmetica Iordani.  
Algorismus demonstratus.  
Rithmomathia.  
De misfatione numerorum.  
Achmetus de proportionibus singularibus.  
De cõmensuratione motus oculi.  
Dedomenorum euclidis.  
Iordanus de datis.  
Demonstrationes cosse.

### In metaphisica.

Almalesi malus duplici translatione & glossis.  
Commentariu Georgii ualle in almalestum.  
Epitoma Almalesi Viriditi.  
Epitoma albatrogii.  
Opus demonstratum Gebri nouem librorum.  
Planisphericum ptolemei.  
Planisphericum Iordani.  
Demonstratio astrolabii Iordani.  
Opus theodoli de spheris.  
Milleus de triangulis sphericis.  
Liber demonstratiuus tabularum primi mobilis.  
Demonstrationes albionis instrumenti nobilissimi.

Alberti de causis Epitoma totius platonice philosophie.  
Metaphisicam phisicæ & theologicæ Iulii.  
Propositiones proculi docente & undecim.  
Propositiones methodii singulares.  
Propositiones demetrii pape.

### In mathemat.

Magiam alberti magni.  
Alkindus de radiis stellaris.  
Libellus Lincolniensis de lineis phisicis.  
De potentia actiua & passiva mirabilis.  
Et quedam alia.

**STEPHANVS ROSINVS** Ex angustia vniuersi dicitur. Artium & philosophię magister. Sacer pignus baccalaureus. Decretorum licētiatus. Cathedralis ecclesię Viennensis canonicus. Astronomiā aliquādiu fidelissime docuit. Supputauit tabulam declinationis stellarū fixarū & varia prognostica maiora proculdubio compilaturus.

**IOANNES ANGELVS** Bauarus Ex Aichen. Artium & medicinę doctor. Astronomus excellens: qui specialiter plurimū in emendatione librorū & tabularū ualuit. Scripsit libellū de correctione Calend. artū. Supputauit ephemerides plures: & varia prognostica. Tabulas æquationū mensū planetarum magistri Georgij peurbachii dum absoluerē: & ad ultimum completere conabatur idem clausit extremū Viennę Anno Christi. 1512. Tertio Calendas octobres.

**MAGISTER GEORGIUS RÄTZENPERGER** Ex Aach. Bauarus. Vir multarū rerum cognitione insignitus. Et inter cetera eruditōis suę documenta in Astronomiā adeo excellit: ut hic doctissimis eius artū uirīs merito connumerandus ueniat.

**DOMINVS PAVLVS** in monasterio Melicensi Astronomus & Cōsmographus p̄cipacissimus. **IOANNES EPPERIES** & Erasmus erudus uir praestantissimus hac etiam tempore Mathēmaticam cum multorum admiratione docuerunt.

**IACOBVS LATERANVS** philosophus Astronomus & Poeta. **IOANNES** quoque fabricius ex Reysling Philosophus & Astronomus insignes erant. Hic enī Fabricius meus confrater erat et aliterius lectionis astronomice merito doctrinę suę professor ordinarius.

**IOANNES TZERTE** Cuius & senator urbis Viennensis. Vir prudens & industrius: & in theomarchis discipulis mita gratia: hisq̄ presertim quę ad fundamentalem picturā & edificiorum rationem pertineant.

**ANDREAS KVENHOFER** Ex Nuernbergensi sub preceptoribus nostris D. Stabio & Seiborio Viennę in Cōsmographiā & tota Mathematica adeo profecit: ut per totam Italiam: & precipue in urbe ipsa ubi doctissimorum uirorum copia cōspiciendus habetur. Nec dubium: quin posteritati excellētis suo ingenio profuturus sit.

¶ **Ioannes Adibaelis Budoensis** Eius excellētē Mathematicum

**Andream Kuenboffer Nuernbergensem** Amicum suum.

En tibi germani quos oculos astragi nesci,

Nobile Germani dogmatis exit opus

Hoc tu ad coelestes ueris docte recessus

Scrutandos: hic est regula certa poli.

Seu rutili stellis conamina prospicis orbis

Ad cūctus rapitur quisq̄ planeta uulces.

Seu uersam in macula lunam: seu solis ad umbram

Respicis adnexo: quas parit orbe soror.

Quo latum, Solis usū germania uincit.

Et primos summa hęc nutrit in arte uiros.

Nos latio linguam finientis: reliqua Atrix tellus

Addidit, astronomos barbara terra fuit.

**GEORGIUS STROLIN** Patrius Viennensis Medicinę studiosissimus: & in Aethiopia apprime doctus. Cuius officio & exemplaribus in emendatione geminarū tabularum Bononię usus sum. Qui & ob studio nostrorū cōformitatē: uitaq̄ & morum honestatem mihi est cōiunctissimus.

En illi det salutemq̄ uiuam: apud nimbosq̄ serena dō modiciā

¶ **Eius Georgij Strolin patrius Ulmensis** Leonardi cornuini Epigramma.

Gratulor ipse tibi, reliquisq̄ colende Georgi,

Sidera quā passim discere pulchra solent.

Quod Colligit cura: iugisq̄ labore,

In locum ueniunt hac monumenta uirum

Quos habuit quondā, pulchra ornamenta uicina,

(Vt nunc) eximios qualibet arte uiros.

Novere astrigenos motus: elementa: deosq̄

Et quicquid pulchri philosophia tenet.

IOANNES KOLPECK EX RATISBONA Medicinæ Astronomiæq; studiosus. Quæ  
 astronomica instrumenta quæcumq; uel ex ære uel ex alio materiali eleganter & artificialiter fabricat.  
 ET EGO Præceptorum meorum doctrinam & præcepta imitatus Cathedram in Mathematicis  
 disciplinis annuente Deo & Inuolentis. Illustrissimæq; Romanorum Imperatore Maximiliano iam teneo  
 has artes pro mediæ gentis uiribus profiteor. Quod si deus cælorum plus arbitretur uitam mihi longiorē  
 concefferit: curabo ne a tam doctis & exquisitis illis præceptoribus prorsus degenerare uidear.

Magister Thomas Resch ex Krems Theologus: Poeta:  
 Wiennæ ecclesiæ cathedralis canonicus. Uiro excellentissimo  
 medicinæ & mathematicæ p̄fessori eruditissimo  
 Dño Georgio Tannstetter Collimatio  
 Magna charitate amico dilecto  
 Salutem & Felicitatem.



Postulasti sepe numero studio flagrantis uir insignis & eruditissime iuorum  
 dam Illustris scriptorū codices uetusulos ex publica gymnasiū bibliotheca  
 cui tum custos & Instaurator præfueris: tuis imo publicis usibus emitterem  
 ut scilicet clariorū scripta utrorum tam dudum & situ & carie & obliteratio-  
 ne squalētā iterum in reditus lucis auram traducere possis. Vnde tuo isti  
 tam pio sanctissimæq; desiderio cōtinuo & letus & lubens parui. Totoq; li-  
 terario ceto non abnuente utrorum Illustris de natione germanica; deo no-  
 stro Viennensi gymnasio summe meritorū Georgii petrabach; atq; etiam  
 Ioannis de monte regio almanorū; nostræq; academiæ alumnos; Tabel-  
 las geminas Eclipsium atq; etiam Primi mobilis tuis manibus uagis lima ca-  
 ritatissima Illustrandas. Publicisq; Calcographorū cura circumferendas emis. ut habeant; eleganter  
 uideantq; passim & nostra secula & doctissimorum hominū grata posteritas præsignis academiæ no-  
 stræ alumnos diuinæ & ingeniosissimæ mathematicæ multiplici literarum sapientia floruisse. Desi-  
 natq; tandem calumniator malignus splendidulas pauonis pennas fuliginosa coruorum nigricie uelle  
 innumbrare. Perge igitur Georgi mi obseruandissime: proq; animi tui dexteritate ad totius Rēpublicæ  
 commodū ingens tabellas ipsas multa posteritatis laude dignissimas in lucem profert. Debet inde  
 tibi gratias æternales auctoris manes sepulchri. Debet & tota Illustris literatorum turba gymnasticæ  
 quibus & famam decusq; cum tuā ingenti gloria restituere paras. Equidem sepe numero sic mecum ipse  
 uolebam: & te & Stabium Stiborūq; Rosinū; Angelum; Erichum Mathematicos nobiles & multo li-  
 terarum splendore nitentes in nostris oris germanicis a deo optimo maximo conseruari. ut essent; per  
 quos Indicta & preciosissima Mathematicæ studia aliquādiu & rursus & barbære phabira subsisterēt  
 et respirarent. Nec te carina zollorū facies dimoueat ab corpis tam salubriter auspiciis. Equidē nosti  
 Georgi doctissime uipeream liuorū rabiem non nisi penes magna & ardua uersari. Nam summa pe-  
 rit; litor; pericula altissima ueni. Et petat summa tela trifida Iouis. Valeto felicissimus. Datū Viennæ  
 Quatuordecimo Kalendas Martias.

Eiusdem Thomæ velociani Hexasticon in geminas tabellas.

Qui uicis astrigeros mundi specularier orbis  
 Cur toties lateant sidera moesta polo  
 Prospicito geminas arguta mente tabellas.  
 Quas Collimisti prouida cura dedit:  
 Euocat hic ueterum ceto phlegetonis ab orco  
 Indicta ne petant tot monuissentia uirum.

**Joannes Michaelis Budorensis Doctissimo**  
**Mathematicae et Medicinae professori**  
**Dño Georgio Tannstetter Collimi**  
**tio Amico & Patrono. S.D.**



**D**u mihi fuit animus humanissime simul et  
 doctissime Collimti, Tabulas primis mobilis Joannis de Monte regio, Et  
 Eclipsium Georgii Peurbachii undeciq; conquisitas & climatas, in com-  
 mune Germaniae industriae frugem & utilitatem tandem emittere. Idq;  
 idipsum ut aliquando assequeretur difficillimas, & cum restor, peregrinationes,  
 et in scribendo transcendiq; non sane triualem operam mihi ipsi uolens im-  
 posui. Cum Romae ubi me laetis gallinae haustum in exenplari uno na-  
 tum esse confidebam: tum etiam Cracouiae quam anno superiori ob hanc  
 unicam suscepam prouincia etiam dissimulans petieram. Et certius quide  
 (ut uerum fatear) nihil habebam: q; laborum omnium omniumq; occupationum ea in re finem: uotiq; seculi  
 eventus. Verum, ut saepe fit, aliquorum inuidia: qui se solos sapere existimant, & sub tenui etis pal-  
 lio sapientiae locum esse non credunt, impeditus: id quod conabar consequi nequaquam potui, maxime q;  
 homini Astronomiae studioso maximo impedimento erant. Quorum ego uersutiam & inexactam inui-  
 dentiam cuiusdam sensu: primū Cracouiam relinquens Viennam perueni: Viennam inquam ad te: qui  
 litterarum ordinis hominibus liberalis hospes semper fuisti: hisq; praesentem: qui praeter terrarum cogni-  
 tionem coelum etiam ipsum affectant. Qui mihi statim praefatas tabulas: exemplari emendate scrip-  
 to: et (ut credo) authorum ipsorum diligentia reuulso: cum quadam gratificandi sedulitate ostendebas: nescio  
 an fato: an casu. Fato crediderim: casu minus: propterea q; casipias antea tibi ceti spiritu quodam fatidico  
 ductus: et fecunda liberalium artium bibliotheca: qua multa est emendatorum librorum copia de-  
 ceperas: maxima mea laetitia. Mirabar enim gymnasiū uestri felicitatem: q; post tot inclytos Astro-  
 nomiae professores: indycta etiam Ingeniorum monumenta seruare uideretur. Mirabar & tuam seduli-  
 tatem: fidem: uigilantiam: quibus ut exirent: imo climata & integre exirent: quae deprimpta erant ope-  
 ra tua diu noctuq; curasti. Quae me etiam eo diligentiae prouexit: ut studium diligentiamq; in compo-  
 nendis characteribus: formulisq; calcographice: formandis: quibus pluribus iam annis exerceor: libere  
 fuerim pollicitus. Quid utiq; praestiterit: consuebunt posteris: deq; nobis longo aeu futurorum iudicium  
 erit. Id sane de me ausim fateri: industria meam: quantulaciq; illa in Siderum & Mathematicae rationi-  
 bus extraxerit: studium & diligentiam suscitata esse: ad eorum in Astronomicis uelignis laborum: qui  
 celi & coelestium rerum sunt studiosi pro uirili iuuandum. Est etiam liber in manibus meis dico & Foderici  
 et Grisogoni Dalmatae Artium & medicinae doctoris: de ludicris natiuitatum Pie memoriae Joannis Lu-  
 cillii Hypodamitallae Santtrelter Heilbrunensi. Praeceptoris quondam nri in hac re cōis: ut lectu digna  
 sit & memoria & perennitate dignissima. Quem amplissima minerva: & plus q; dici queat ingenio sub-  
 tili Mundus deus: dum in humanis fuit ditauerat: ut uispe ex his quae supersunt monumentis subiecto etati  
 poteris. Quem nos opera tua auxiliante conformi sedulitate in iuuanda studiosorum sollicitudine com-  
 tabimus. Et inter cetera Tabulis ad Planetarum reliquorum motum attinentibus: uidentiori ueritate  
 et facilitate plus gratiosa: posteris indubie placituris. Quae ut emergant: eo animo: quo sunt insinua-  
 timopere nitentur. Vale doctissime Collimti: meq; qui tui sum studiosissimus: iugiter ama. Viennae  
 Austriae Anno ab Incarnatione Christi Millesimoquadringentesimo ac quarto decimo. Fridric kalen-  
 das Martias.

**¶ Jacobus Spiegel Sebastianus Jureconsultus Caes. & Archiducalis Secret.  
Ho. iuris in studio Viennensi. professor. Ab Germaniam ingeniosam.**

Bombarda, & ratio pœdi, quo litera manat,  
Vim rari ingenti iam prius edocuit,  
At nunc quod numeris præstet factæq; mathesi  
Purbaccho, & Iano gratia danda venit,  
Cætera sunt aliis tecum cômunia, tris has  
Ingenti dotes suspice: Quare patet,

**¶ Sebastiani Bunderlij Carmen ad Librum.**

I celer, & letus totum te pande per orbem  
Qua norint homines uerba latina loqui.  
Nam satis es duro, iam tandem pumice tersius  
Et doctis tecum dogmata rara geris.  
Te plausu ingenti Latius, te Sarmata bellax  
Teq; Tagi potor sumet utraq; manu.  
Et dicent longum sis scilicet pulchra Vienna.  
Quæ tanti profers scripta sepulta uiri.

**¶ Nicolaus Serbelius Pboetzi.**

Quid non tentarunt prius quo noscere possent  
Et motus cœli multiplicisq; uices.  
Nec tantû motus sed & ingeniosa polori  
Mensura ex omni cognita parte fuit.  
Nec minus emenso uariantia tempora cœlo  
Astra animos cura detinere graui.  
Quid dicam Solem: quid Lunam: quid uaga cœli  
Lumina: quæ passim lucidus axis habet.  
Scilicet ornatus: hos cognouisse patens  
Philosophis mundi perplacuisse reor.  
Quo melius possent excessa mente supremâ  
Scire opus: & quicquid pulchrior orbis habet.  
Magna satis certe sunt hæc, maiora sequuntur:  
Qui regit hunc orbem eddicere deum.  
His etenim mens sancta modis assurgere præcepit  
Nititur: his gta dibus regna tonantis adit.

**Ab doctissimû Georgiû Tannsteter  
Collimitiû Artium & Medicinæ  
doctorem. Et Astronomiæ  
Viennæ professorê Wsim  
et Preceptorem suû**

**Andrææ perlach Sctij & Otostichon.**

Astra per æthereos motum uariantia cyclos,  
Et certas rerum colligis arte uices.  
Nec satis hos, lucem luuat accepisse priores  
Te duce: qui dudum nil nisi nomen erant.  
En iterum liber est tetris reuocatus ab umbris  
Quo germana suû gloria plenus habet.  
Quæ tibi se multum debere fatebitur ollam  
Inq; tuo ponet nomine grata decus.

Emendanda in transcurso errata (cum ob nimiam Calceographorum festinantiam: tum etiam q̃ simul  
totum perspicui aliquid prorsus nequeat: ut in optictis ostendit) subsequunt.

In tabula distatæ ueræ constitutionis aut oppônis a media/notas M) numeris introituallibus Argumetu  
torû/solis uidelicet in frôte fig. 0. & lune in latere descēdēdi fig. 3. cœu gnomone interceptas in A uerte.  
In tabulis aquationis solis numeri laterales tñ ascēdentes q̃ descēdētes gradus & minuta argumētū sol  
Ingrēdiēdi offerūt: q̃q̃ titulis discrepātibz: ut in quarta seu ultima earundem satis liquet.  
In tabula distatæ constitutionis utilis illa uera Ad clima septimū loco Arctis p̃lces: & e regione pro pi  
scibz falso titulo arctæ positos cernes: put characteres taliū signoz: elidē noibz sup̃positi tñ indicāt.  
In tabula uerū motus solis in horis & minutis: in titulo numeris introituallibus in frôte tabule inserto loco  
Lune ponat Solis: sic uidelicet. Argumētū Solis signa & gradus.  
In calce fere exēplū eclip̃s lunaris: canonibz cōmoditatū g̃sa annexū: ubi cū tpe dimidiæ duratiōis & cū  
argumēto lunæ æquato uerū motū eiusdē in horis & fractiōibz ex tabula huiusmodi titulo insignita  
elicere subemur: loco fig. 1. pf. 4. m. 44. ibidē pressorū denotatiōibz tñ innotatis pone pf. 1. m. 44. fa. 44.  
Et si literæ uel numerorum figuræ transpositæ aut inuertiæ uel aliæ fortassis leues mendæ occurrerint:  
facillā supputatoris labor & bona industria emendare poterit.



**Præfatio Magistri Andree Stiborij Boij in  
tabulas Eclipsium Ab. Georgij peurbachij  
Viri Mathematici eruditissimi.**



**Uis non gratuletur insigni reipublicae litte**

raritæ uestræ Rector Decane atq; ceteri uiri ornatissimi : q; e sine uestris archigymnasijs Viënsis tanq; e Trolano equo prodierint uiri heroes clarissimi In omni scietarũ genere præpollentissimi. Et ut infinitos sacratissimæ Theologiæ summæ pietatis p̃fessores atq; edificatores Iuriscitiæ Medicinæ Artiũq; clarissima lumina taceat: duos impresentiarũ tantũmodo cõmẽto rabo mathematicos excellētissimos: per uniuersum pene orbẽ nõ sine summa glia & decore uisi archigymnasij p̃clamos/Georgij Peurbachij & Ioan- nẽ de Monte regio Francum. Nemini dubium esse potest: tam florētissimã uniuersitatem habuisse multa ingenta etiam profundissima : quæ si sua acumina In res Ingenuas & per- petuo manentes conuertissent magis q̃ In ea dicta & commentationes quæ tunc meliores sunt habitæ pro suo sæculo & cum suo conatu mox euanescent: gloriosum & perpetuũ nomen longæ posteritati & multis gētibus trãsmisissent. Quemadmodũ hi duo prænominati heroes Georgius & Ioannes: quorũ primus secundũ præceptor/homo pientissimus collegit dulcem collega : ob plurima diu Ingenij sui mō numenta annuo stipendio ab archiduce Sp̃sm̃do Austriæ legaliter donatus. In clarissimas res añimũ dies nocteq; intendens Astronomiam dico iup̃imis ceterisq; Mathematicas disciplinas uerarum ra- dicum sapientialium uias: ut diuini Platonis uerbis utar. In quibus adeo profecit: ut tabulas novas: epi- tomatas instrumenta: compositiones & cetera Id genus plurima/elaboraauerit subellissimè: Inuenit do- ctissimè: cõtexerit demonstrauit: eum clarissime In indice subscripto suoq; operum ex diuersis q̃ ego of- fen dere potui singularissima diligētia collecto cernere datur. q̃ nõ dubitẽ multo plura diuini huius uiri Ingenij extare monumenta: quæ ad nostram noticiã non peruenire. Quorũ omnĩũ hoc unicum/quod hic impressum est exemplar Tabulæ Eclipsium plane omnibus argumento esse potest: quæ sit cate- ra eius uiri lucubrata: cum nihil illic inuentas non summe doctum: non castigatissimũ In tam abstruso atq; laborinthico totius Astronomiæ recessu: ut nos ab infinito pene chao disticillimarum In ea te ope- rationũ & intricatissimarũ liberaret: & breuissima & precisissima uia In ueritatem usq; perduceret: cum uidisset prius In p̃dictione deficere. Quod altius cordibus imprimat hi qui tantum Alfonsois: Plan- kinis: & ceteris p̃ficiis tribuunt (raro aut nunq; solidis obseruationibus dedist) ut eos minime errare cre- dant : & eoꝝ scripta sempiterno durare fragilliter autumant : quemadmodũ & nonnulli de S. Thoma: alij de Scoto alij de Aristotele aut Cõmentatore &c. uane presumũt. Sed lõge alia ratio In Astro notia habenda est : ubi obseruationibus nouis semper per decursum temporis ueteribus inuētis aliquid addi aut minuĩ oportet. Sicut de declinatione maxima Solis: Almanach perpetuo: Planetarũ motibus: Motu octauæ spheræ: & similibus obseruationibus certis plurimog; imprimis nostro sæculo a Georgio peur- bachio liquido est compertũ. Habes aream amplissimã blactatorum frigidissime: uides tabulam aqua- tionis Solis nouam/ aliquot minutis ab Alfonsois & aliis discrepantem. Eume si quid habes nõ uene- natum: sed ueritatĩ subnixum: uisus hic noster author studiosissimus & amantissimus fuit. Habes Ioan- nis de Regio monte monumenta clarissima. Sed contendis/hodie uniuersitatem Viënnensem effortam: et nullum esse qui aliquid dignum mathematicis intelligat. Aspice Ioannis stabili Austriaci clarissima inuenta: quorum nonnullorum a se descriptorum indicem præmissum uides. Aspice nostra lucubrata quantalacq; In p̃e missio pariter Indicẽ cõtenta. Coerce linguam: occurrere magis aliquo roo aut tuo- rum nobili inuento: & non inuidebimus: sed gratiam pro publica utilitate dignam magis/quemadmo- dum & huius nostro Peurbachio habebimus. Cui merito tota posteritas pro hoc diuino eclypsiũ opere et ceteris suis inuētis sempiterno assurgendum: & omnibus In mathematicorum huius archigymnasijs Viënsis catalogo conscriptis. qui plano argumento esse potest: hoc gymnasium nullo unq; tpe doctissi- mis mathematicis caruisse. Potissimũ aut hoc aureo sæculo: quo & ueris lris scribere usus inoleuit: cœ- pit et Mathematicoꝝ multitudo per uniuersam pene germaniã increbrescere. Claruerunt Viennæ præ- nominati cũ doctore Theologo: Ioanne Phortzũ. Magistro kuperisperger. Ioanne Ep̃peries. Ioanne Dorñ monacho predicator: & aliis plurimis Nuerberge : Barbatu Bernardus cum monacho præ-

dicatore agulno Daco preceptore meo iutro omnisartam docto. Pambergæ doctor Eberhardus schlei-  
fingeri Joanne melber. Ioannes dalburgius Ep̃s Vormaceni. In Engelstadio M. Friderice. N. Mg̃f  
Ioannes Angelus M. Ioannes emdorffer. Ioannes auentinus Noricus Mathematicā p̃fissi sunt. Colo-  
niæ Burchard⁹ mümersloch. In Frāconia Ioannes Lucilius Hypodamus alias Santheimer. Qui p̃ter  
alios quos in Italia Mathematicis disciplinis instituit Ioannē michael ex nostratib⁹ nobis notū religit.  
Ratisbonæ dñs Ioannes Toloph⁹. Salisburgæ. N. Burchardus cōtēporane⁹ Peurbachii. In Tubingē  
Ioānes Iustingeni. Haldebergæ Ioānes haffurt. Cōstatiæ Doc. N. Schlinnagel. Augustæ doc. Adolph⁹  
Occo. In Libs Doctor. Ventzelasus ex Buduocy⁹ medici. Et ceteri innumeri: quorū noticiā me fugit.  
Qui diuersis scriptis/ingeniaris/ & inuentis totā pene Germaniā illustrauit. Soli uero Peurbachius &  
Ioannes ceteros tanq̃ duo lumina ceteras stellas sup̃gressi/gloriā sūmā prætulerunt. Signāter Georgi⁹  
ille noster in hoc tabularum egyptium opere: quo nos a futuris mirabilibus naturæ operibus & pericu-  
lis cautissimos redditi/ & metu liberat: quetnadmodū Pericles Atheniensium animos solis obscuratio-  
ne territos/ Aristander Dardil exercitū magno Alexandro insequentem/ & propter eclip̃sin Lunæ cō-  
motum/causis expositis reuocat & saluat. Mirandum certe est/homines in tam penetralia summi dei ar-  
cana descēdere potuisse: ut hac mirāda uentura iam certe cognoscere/ & tam longe prætuidere ualerent.  
Sed de hoc nemo miretur: cum ad hoc creatus sit homo: ut ex contemplatione magnaliū dei deum crea-  
torem magnificet & benedicat. Iuxta illud Ecclesiastici. xvii. Deus de terra creauit hominē fm imaginē  
suam. Et sequitur: Et posuit oculum ipsorum super corda eorum: ostendere illis magnalia operū suorū:  
et nomen sanctificationis collaudanti/ & gloriari in mirabilibus illius ut enarrant magnalia dei.

*In carmine Iobini pro Duc adeo: verū. Duc adeo: 7 verū. 7 pro astrigeras astrigenas. 7 p̃ illud ista haec lege.*





¶ Canones in Tabulas Eclipsium Magistri  
Georgij peurbachij Viri perspicacissimi.

## Propositio

## Prima.



**TABULAE CONIUNCTIONIS**  
vel Oppositionis medie Luminariū: lo  
cum Solis: & Argumenta Lune & Latitu  
dinis eius media facilliter deprehēdere.

¶ Notato tempore annoꝝ Christi & mensium quod numerat com  
pletum usq; ad initium mensis usualis in quo Coniunctio uel oppo  
sitiō futura est quam queris: cum annis Christi completis intra tabu  
lam mediarum coniunctionū & oppositionū. & si numerū annorum  
prædicti non inuenieris in annis collectis: intra primū cum proximo  
minori: & ea quæ in directo inuenieris omnia distincte extra scribe.

Deinde cum residuo subiecto annorū ultra collectos intra in annis expāsis: & similiter in directo eius  
reperita sub prius scriptis extra scribe: unūquodq; sub suo genere. Et si ultra annorū numerū habueris  
menses completos: cum eis tabulam mensū ingredere: cōmunes quidem si annus currēs cōmunis sit  
bisextilis autē si bisextilis. & quæ ibi reperies sub prius extra notatis etiam unūquodq; sub suo genere  
extra nota. Hæc sic extra scripta conjunge more solito fractionū phisicarum & signorū cōmuniū: atq;  
dierum & horarū. Deinde productū ex tempore dierū horarū & minutorū compara in tabella reuolu  
tionum tempori alicui in directo tituli coniunctionis si quæris coniunctionē: aut in directo tituli oppo  
sitionis scripto si quæris oppositionē. Nā ei lineæ eiusdē tabellæ in qua ponis tempus proximo malus  
productū tui rēporis: quod ex additione pueniat extra scribere oportet supra lineam productorū tuorū.  
Quia sic sup̄scripta: ea quæ loci solis: argumentorū lune & latitudinis eius sunt: unūquodq; suo generi  
supraposito cōiungēdē productū tuis sibi supraposito minue. Tempus itaq; quod facta subtrahitiōe  
manebit erit tps mediæ coniunctionis uel oppositionis quæritur ad meridiē Viennensem. Quod si ad  
aliū meridiā tempus prædictū uolueris habere: cōsidera distantā alterius meridiani a meridiano  
Viennensi. & pro quolibet gradu uersus orientē adde quattuor minuta tempori: pro quolibet autē uer  
sus occidentē aufer quattuor minuta a tpe: & factū est. Illud autē tempus coniunctionis uel oppositionis  
numerandum est ab initio illius mensis usualis in quo cōiunctio uel oppositiō futura est quam quæ  
ruisti. Producta autē ex motibus locum solis mediū: argumentū lune mediū: item arguētum latit  
udinis lune mediū ad eandem coniunctionē uel oppositionē mediam indicant.

## Propositio

## Secunda.



**AUGMENTUM SOLIS inuenire.** ¶ Cum annis christi cōpletis ad tempus tui  
intra tabulā augmēt solis uel cū proximo mi  
nori numero: & in eius directo inuenies augmēt solis ad tēpus cū quo intraisti cōpletū.  
Iuxta quoq; iuuenies motū augmēt in uno anno. Qd si superiunt adhuc anni cū quib;  
nō intraisti: pro quolibet anno adde augmēt inueniente motū augmēt in anno semel. Vi  
debis etiā p motū in anno diuisum in duodecim æqualia quantū moueat in uno mē  
se usuali. Item diuidendo motum in mēse p tria habebis motū augmēt in decē diebus. Vnde facillē tibi  
patere potest aux solis ad quæcūq; coniunctionē aut oppositionē luminariū. Nam si ultra annos ha  
bueris menses & dies: adde pro quolibet mēse motū augmēt in mēse semel: & pro quibuslibet decē  
diebus motum augmēt in decem diebus.



# Tempus vere coniunctionis vel oppositionis luminarum

faciliter cognoscere.

Ex pmissis primū habes tps medie coniunctionis aut oppositionis talis loci solis: & argumentū lunæ mediū: & angē solis ad idē tps. Auct̄ ergo angē solis a loco solis medio: & remanēs uocabit̄ argumentū solis. Cōsidera itaq; argumentū lunæ an fuerit minus sex signis an plus. Si minus: q̄re uigra & gradus argumentū solis in tabulā distītiæ ueræ coniunctionis aut oppositionis a media in parte sup̄iori tabularū: signa autē & gradus argumentū lunæ in parte sinist̄a. Si aut̄ fuerit plus: q̄re eadē signa argumentū solis in parte inferiori tabularū: signa uero & gradus argumentū lunæ in parte dextra. Et si utriq; argumentū tū solis q̄ lunæ p̄isse iueneris: in angulo cōi eorū repleas hōs & minuta distītiæ ueræ coniunctionis aut oppositionis a media: addendā qdē ad mediā coniunctionē aut oppositionē si ab angulo cōi ueris argumentū solis quo intrasti cundo primo occurrat A. minuēdā aut̄ si primo occurrat M. Si autē neutrū argumentū p̄isse iueneris: intrabis cū p̄xime minorib; in tabulā: & angulū cōem extra nota cū signo suo principalī A uel M quod primo occurrat uersus argumentū solis quo intrasti cundo ut dictū est. & huius angulū cōis ad duos angulos p̄xime sequētes fm argumentū solis & lunæ p̄xime maiora in tabula descripta cōsiderabis distā. q̄rū una erit solis: scilicet illa q̄ est inter angulū cōem & angulū laterālē cōrrespondēte argumentū solis p̄xime maiori in tabula. Altera erit lunæ: scilicet q̄ est inter cōem angulū & angulū sup̄iorem scilicet cōrrespondēte argumentū lunæ p̄xime maiori in tabula. De distā solis sūme partē p̄portionalē fm p̄portionē sup̄ius in argumentū solis ultra illud cū quo intrasti ad duos gradus. eiq; p̄te p̄portionalē ad angulū cōem extra notatū: si dexter aut sinist̄er angulus scilicet argumentū solis p̄xime maioris in tabula maior fuerit angulo cōi extra notato. aut minue si fuerit minor. Silit̄ de distā lunæ sūme p̄te p̄portionalē fm p̄portionē minorē in argumento lunæ ultra gradus ad 60. minuta. Bāq; p̄te adde ad angulū cōem extra notatū: si sup̄ior uel inferior angulus scilicet argumentū lunæ p̄xime maioris in tabula maior fuerit angulo cōi extra notato. aut minue si fuerit minor. Merit̄ erit distītiā ueræ coniunctionis aut oppositionis a media: addēda uel minuēda fm signū suū p̄cipale. Illud t̄m notū dū est: q̄ si acciderit signū A uel M cū iuxta angulū cōem: tūc ad hūc distītiā solis oportet cōsiderare si signū A uel M angulū cōis: scilicet qd p̄te occurrat cūdo uersus argumentū solis ab angulo cōi fuerit idē cū signo angulū laterālē: scilicet cōrrespondēte argumentū solis maiori: tūc distā habebit̄ si subtrahis angulū cōis ab angulo laterālē aut eodū. & de p̄te p̄portionalē fiat ut prius dictū est: addēdo eū uel minuēdo. Sed si fuerit alter: manet̄ huius signū angulū cōis fuerit A. & angulū laterālē fuerit M. aut eodū. tūc p̄ distā hūc a oportet angulū cōem iungere cū angulo laterālē. & tūc pars p̄portionalē talis distītiæ p̄t̄ minuēda ab angulo cōi extra notato. Silit̄ ad hūc distā lunæ oportet cōsiderare si inī angulū cōem & p̄ximū sup̄ia uel inf̄ia: scilicet angulū cōrrespondēte argumentū lunæ maiori: nullū signū A uel M acciderit: tūc distā habebit̄ subtrahēdo unū angulū ab alio: minorē a maiore. & de p̄te p̄portionalē fiat ut sup̄ius tactū est: addēdo eū uel minuēdo. Si aut̄ mediet̄er inter eos signū A uel M. tūc p̄ distā hūc a oportet ambos angulos cōiungere. & tūc pars p̄portionalē talis distītiæ p̄t̄ minuēda ab angulo cōi extra notato. Et q̄n acciderit q̄ utraq; pars p̄portionalē est minuēda: tūc p̄t̄ subtrahit̄ addandū: & de iude cōi. Nōm minū inf̄. Itē si ambe addēda: tūc subtrahit̄ cōiugant̄: & p̄t̄ addandū. Et si una addēda fuerit: altera minuēda: addendū minor a maiore: & de residuo fm titulū maioris fiat. Et si aliq; partū p̄portionalē: siue aggregatū ex eis: seu residuū unius earū minuēdū esset ab angulo cōi: nō possit̄ quia angulus eo minor esset. tunc fiat eodū: angulus auferat̄ ab eo qd esset minuēdū: & residuū notet̄ si q̄no alter: manet̄ q̄ angulū cōis habuit̄: & tenet̄ p̄ distītiā ueræ coniunctionis aut oppositionis a media. Multa uerba sed opus breue est. Habita itaq; distītiā ueræ coniunctionis aut oppositionis a media si hēt nō est A. Iūge eā cū tpe medie coniunctionis aut oppositionis. uel minue eā ab eodē si hēt M. & pueniet̄ tps ueræ coniunctionis aut oppositionis q̄ritū dēle: nō est̄. Vocat̄ aut̄ illud tps sic inuēit̄ tps coniunctionis aut oppositionis ueræ primo examinātū. qd̄ stat esse p̄cūm oīno. stat etiā esse p̄cūm. nunq̄ tū a p̄cūo differet̄ p̄t̄ distā sensibillī. Verū si certior in hac re fieri uoles: ad tps sic inuēitū eū solē & lunā: ut infra docebo. Et si iueneris ueros eo q̄ motu tpe coniunctionis: aut uerū solis & nadit̄ lunæ: tpe oppositionis i signis gradib; & minutis & secundis cōcordare oīno p̄cūm fuit̄ tps primo examinātū. Sed si differentia sit

si bene prius operatus es/extra tria minuta esse non potest. Differendū igitur illā in minutis & secundis duplici/ & sicut minuta & secundā temporis. Hæc itaq; minuta & secundā tēporis/ si sol lunā in conlunetione/ aut sol nadir lunæ in oppositū antecedit/ adde tēpori primo examinato/ uel minue ab eo si sequat/ hoc est adde si uerus locus solis maior fuerit uero loco lunæ/ aut loco nadir lunæ/ minue si minor. & habebis tēpus ueræ coniunctionis aut oppositionis secūdo examinātū. Quod si iterū simili modo uelis examinare/ potes quidē sed nō est necessariū/ nam errare nō poteris in uno minuto temporis.

### Propositio

### Quarta.



**Notatio motus solis: lunæ: argumenti lunæ: & capitis draconis reperire.**

Notato tēpore christi quod numerat/ cōplēti usq; ad instans pro quo hæc scire uoles/ sūme radicē talis motus seu christi seu ad annū dñi. 1400. complēti/ ut i tabula medioꝝ motuū notatū uidēs/ & eam extra scribe. Deinde cū residuo tēpore quod a radice tua sumpta transit usq; ad instans tuū intra tabulas easdem in annis & mēlibus diebus horis & minutis. & ea quæ in tabula motus quæ quartis in directo horum inuenies radice extra notate subscribere/ unū quodq; suo generi. Et intrando in tabulam annorū prius intra cum minor/ si propinquior/ & si quid in annis adhuc residui erit/ cum eo quoq; aut minor/ si propinquior/ intrabis tā diu donec annos omnes euacues. Item si annus currens cōlis fuerit/ intrabis in mēses cōmunes/ si bī sextilis/ in bīsextilis. Tabula etiam horarū pro minutis temporis deseruit. sed tunc respiciendus est tēpus inferior. Postq; cum toto tempore residuo tabulas intrasti/ & quæ ibi inuēta sunt radice subscripsisti/ adde subscripta cum radice/ unū quodq; suo generi/ more fractionū phisicarū/ scilicet pro. 60. secundis unū minutū ponēdo/ pro. 60. minutis unū gradū/ pro. 30. gradibus unū signū. Et si. 12. excrecēt signa 12. abiciant. & quod ex tali additione extērit erit motus quæsitus ad meridianū Viēnensē. Quod si ad aliū meridianū practice uoles habere/ muta solum radices motuū. nam hic posite sunt ad Viēnsē. Cōsidera nōq; distantia alterius meridiani a meridianō Viēnensi/ & pro quolibet gradu sūme quatuor minuta temporis. & cum eo tempore intra tabulā talis motus/ & motū sibi correspondētē pro meridiano occidentali adde radice hic posite/ pro orientali uero deme/ & factum est. In tpe uero cōtrariū facias

### Propositio

### Quinta:



**Sole verificare.**

Ad tps tuū pro quo uoles habere uerū locū sol' habes ex pmissis augē solis & mediu locū sol'. Deinde subtrahē augmē a medio motu/ & remanebit argumentū solis ad idē tempus. Cum eo argumentū intra tabulam equationis solis/ querēdo gradus & minuta argumenti in parte sinistra/ & signa argumenti superius/ si signa argumenti fuerint pauciora sex. Aut gradus & minuta argumenti in parte dextra/ & signa in parte inferiori/ si fuerint plura sex. Et si gradus & minuta argumenti solis practice inuenieris/ tunc in angulo cōmuni habebis equationem quæsitā. Cuius notam A uel M inuenies iuxta signa argumenti cū quibus tabulam intrasti. Quod si gradus & minuta argumenti solis practice nō inuenieris/ quare minores/ propinquiores/ & in angulo cōmuni extra scribe equationem cum nota sua A uel M. Deinde iuxta equationem sumptam uidēbis quid correspondeat unū minuto argumenti. Illud totiens sūme/ quot habes minuta in argumento ultra ea cum quibus intrasti/ & productum adde ad equationem extra scriptam/ si proxime sequens æquatio in tabula fm processum numeri graduū cum quibus intrasti maior fuerit/ aut minue si minor/ & proueniet æquatio solis quæsitā. Quā tēpore medio motū si habet A notā/ aut minue si habet M. & erit uerus locus quæsitus. Hanc autē equationis tabulam de nouo componere placuit/ propterea q; ea quæ in tabulis alfonis inueniuntur præcisione careant. Volui eam etiam sequenti tem quæ lunæ est per decē minuta in lineis numeri augere/ ut facilius erit operatio propter partes proportionales sūmendās.

## Propositio

## Sexta.



## Innamadequare.

Ad instans pro quo locum lune uerum habere uoles  
ex præmissis habebis meliores motus solis: luna: & ar-  
gumentū lune. Subtrahē itaq; medium motum solis a medio motu lune: & residuū  
duplica: & fiet centrum lune. Cum quo intra tabulas æquationū lune: querendo  
signa superius: & gradus & minuta in sinistris lateribus descendendo. Aut signa in  
serius: & gradus & minuta in lateribus dextris ascendendo. Quod si gradus & mi-  
nuta centri præcisè inuenieris: habebis in angulo cōi æquationem centri & minuta  
proportionalia: quæ extra notabis. Et si gradus & minuta centri præcisè non inuenieris: inueni  
propinquiori intrabis. & per partem proportionalem sumptam de tota differentia fin proportionem resis  
duorum minorū centri ad decē minuta æquabis æquationē centri. Eam addes argumento medio: si  
iuxta signa cētri cum quibus intrastrī scriptum sit Centri addit. Aut minue si ibi scriptum est Centri um  
minuit. & exhibit argumentum lune uerum. Cum quo similiter intrabis ut cum centro secisti. & in angu-  
lo cōmuni accipies diuersitatē diametri: & æquationē argumenti. Et si præcisè non inuenies gradus &  
minuta argumenti: iterare cum minori propinquiori: & uideres id quod in eo loco corrigēdet unū  
minuto argumenti. Id totiens sumes quot sunt in argumento minuta residua: & productū æquationi  
argumenti adderes: si pro xime sequens æquatio fin processum numeri gradū cum quibus intrastrī ma-  
ior fuerit. aut minuetes si minor. & quod edit est æquatio argumenti primo examinata. Deinde de di-  
uersitate diametri accepta sume partem proportionalem fin proportionē mlti: utorum proportionaliū  
prius seruatores ad sexaginta minuta. Et hanc partem addes æquationi argumenti primo examinata: &  
et proueniet æquatio argumenti ultimo examinata. Quam lunge medio motu lune: si iuxta signa ar-  
gumentū scriptum sit Argumentū addit. Aut minue ab eo si scriptū ibi sit Argumentū minuit. & exhibit  
uerus locus lune: questus.

## Propositio

## Septima.

Verum locum solis: argumentū lune equatum: item  
argumentum latitudinis lune equatum ad instans  
vere coniunctionis aut oppositionis breuiori via in  
uestigare. Etq; dies non equatos ad eq̃tos reducere.

Hæc ualeat  
tentus sis quæ ex tribus primis propositionibus repperisti. Cum argumento solis tēpore mediæ coniu-  
ctionis uel oppositionis inuenio intra tabulam æquationis solis: querēdo æquationē eius: ut in quinta  
dictum est. Quam signabis per notam A uel M iuxta signa argumenti solis repperit. Deinde cum distan-  
tia ueræ coniunctionis aut oppositionis a media intra tabulam ueri motus solis in horis & minutis: que-  
rendo eandem distantiam in parte sinistra: & superius argumentū solis uicinus. & illud quod in angu-  
lo cōmuni inuenies extra scribe. Et si ibi intrandum est: ibi intrabis. Quod autē sic inuenieris: est ueræ  
motus solis in tempore prædictæ distantie. Hunc signabis per notā qua signata fuit distantia ueræ cō-  
iunctionis a media aut oppositionis. Post considera si hæc duo: scilicet æquatio solis atq; motus distan-  
tiæ fuerint eiusdem notæ: tunc ea cōfige. Si fuerint diuersarum: minore a maiore deme. Et si luxūssi/  
productum signa per notam priorem amborū. Vel si unū ab altero minuisse: residuū signa per notam  
maioris a quo facta est subtractio. Quod itaq; prouenit: si habet A: adde cum loco solis medio: item cū  
argumento latitudinis lune medio ad ipsas mediæ coniunctionis aut oppositionis repperit. Vel minue  
ab eisdem si habet M. & exhibet locus solis uerus: & argumentū latitudinis lune: fere equatū ad ipsas ueræ  
coniunctionis aut oppositionis. Ideo autē didi fere æquatū. nam non potest differre ab æquato plus q̃  
duobus minutis. Quod accidit propter motum capitū in tempore distantie ueræ coniunctionis aut op-  
positionis a media. Ideo si uoles motum capitū mediū in tempore talis distantie: minue adhuc: si distā

ta habet M, aut adde si habet A. & erit recte aequatum. Item ad tempus ueræ conjunctionis aut oppositionis quæras medium motum capitis. Cui coniungas uerum motum lunæ: & exhibit argumentum latitudinis lunæ æquatum ad ueram conjunctionem aut oppositionem. Item cum distat ueræ conjunctionis aut oppositionis a media intra tabulam medii argumenti lunæ in horis & minutis: & quod ibi lunæ nles extra scribe. Et eodem extra scripto pro qualibet hora distantia nouem minuta coniunge. & productum adde ad argumenti lunæ medium tempore mediæ conjunctionis aut oppositionis inuenito: uel ab eodem minue: fm ludicium notæ scilicet distantia: & proueniet argumentum lunæ æquatum ad tempus ueræ conjunctionis uel oppositionis. Si tñ illis contentus esse nolles: æquas omnia hæc: ut in quintâ & sextâ traditum est. Præterea cum uero loco solis ad tempus ueræ conjunctionis uel oppositionis inuenito intra tabulam æquationis dierum/superius querendo signum: & in latere sinistro gradum: & inuenies in angulo cōmuni æquationem dierum: scilicet minuta & secunda temporis. quæ coniunge ad tempus conjunctionis aut oppositionis ueræ dictis non æquatis: & proueniet ueræ conjunctio aut oppositio diebus æquatis.

## Propositio

## Octaua.



**Tempus uisibilis conjunctionis: atq; diuersitatē aspectus in latitudine ad idem tempus indagare.**

**T**Ex prioribus habes ueram conjunctionē diebus æquatis: locum uerum solis: & argumentum lunæ æquatum ad idem tempus. Tabulas igitur distantia: siue sexto siue septimo/intra cum signo conjunctionis a uera: quæ tuo climati deferuntur: intra sub argumento lunæ proxime minori in tabula reperto: & cum horis & minutis proxime minoribus in linea numeri inuenies, & quod in angulo cōmuni positum est de tempore & diuersitate latitudinis extra scribe. Post inuabis cū argumento quo prius: & cum numero horarum & minutorum proxime maiori in tabula reperto. & eorum quæ in angulo cōmuni ponuntur: ad ea quæ extra scripsisti notabis differentias uniuscuiusq; ad genus suum. Et de illis differentiis sumendæ sunt partes proportionales fm proportionem residui distantia: conjunctionis ueræ a meridie ultra illud tempus cum quo primo intraisti ad excessum horarum & minutorum cum quibus secundo intraisti/super horas & minuta cum quibus primum fecisti introitum. Et pars proportionalis temporis addenda est tempori extra scripto/si tempus anguli cōmunis secundum dima tus fuerit tempore extra scripto: minuenda uero si minor. Similiter pars proportionalis diuersitatis latitudinis addenda est diuersitati extra scripta: si diuersitas anguli cōmunis secundum dima tus fuerit: minuenda uero si minor. Item intrabis cum horis & minutis quibus primo intraisti: & cū argumento lunæ proximo maiori in tabulam. & eorum quæ in hoc angulo cōmuni ponuntur: ad tempus & diuersitatem quæ extra scripsisti notabis differentias. De quibus sumendæ sunt partes proportionales fm proportionem graduum argumenti lunæ: ad 30. gradus. Et pars proportionalis temporis addenda erit tempori extra scripto/si tempus huius anguli tertii maius fuerit tempore extra scripto: aut minuenda si minor. Similiter pars proportionalis diuersitatis latitudinis addenda erit diuersitati extra scripta: si diuersitas anguli tertii maior fuerit diuersitate extra scripta: minuenda uero si minor. Parte itaq; proportionali quæ addenda est addita: & quæ minuenda est diminuta: proueniet distantia uisibilis conjunctionis a uera: & diuersitas latitudinis. Et hoc ad principium signi cuius tabulam intraisti. Quod si sol non fuerit in principio signi sustine similli modo ut iam dictum est intra dis erit in tabulam signi sequentis: & recipienda erit distantia uisibilis conjunctionis a uera cum diuersitate latitudinis. Postea harum duarum distantiarum: similiter harum duarum diuersitatum differentia: uidenda sunt: & de eis accipiendæ partes proportionales fm proportionem numeri graduum loci solis ultra signa integra: ad unum signum: hoc est ad triginta gradus. Et pars proportionalis temporis addenda erit tempori ad principium signi solis/si tem,

pus sequentis signi maior fuerit, aut minuenda si minus. Similiter pars proportionalis *diuertens* addenda erit diuertenti ad principium signi solis: si diuersitas sequentis signi maior fuerit: aut minuenda si minor. exhibetque distanda visibilibus conjunctionis a uera: & diuersitas latitudinis, quæ serua. Sed in his hæc cautela obseruanda est: qd si ambo introitus tam in tabula ad principium signi solis: qd in tabula ad initium signi sequentis utrobique supra lineam nonagesimi gradus ab ascendente: aut utrobique infra, tunc: differentia temporum habebitur subtrahendo minus a maiore. & de ea sumenda est pars proportio n aliter: cum ipsa apendum ut dictum est. & exhibet distantia conjunctionis visibilis a uera cum nota A. si introitus factus est infra nonagesimum gradum ab ascendente. Aut cum nota M si supra: ut satis titulus a dectris indicat. Sed si accidat unū introitus esse supra nonagesimū gradum: & in tabula alterius signi infra, tunc quia tempus in una tabula reperiuntur fieret addendum: aliud uero minuendum: ideo differētia habebitur: si ambo tempora conuidentur. & de coniuncto sumenda est pars proportionalis *sum* proportionem numeri graduum solis ultra principium signi sui ad unū signū: hoc est ad triginta gradus. Et hæc pars proportionalis subtrahi debet a tēpore principii signi solis: si potest. & residuū habebit notā A. uel M. ut habebat introitus in tabulam principii signi solis. Si uero nō possit subtrahi: fiat e cōtra: tēpus distititæ ad principii signi solis auferatur a parte proportionali. & residuū habebit notā A. uel M. ut habebat introitus in tabulā signi sequentis. Quod itaq; sic proueniet: erit distantia visibilis conjunctionis a uera. Si habet notam A: adde eam tēpore ueræ conjunctionis diebus æquatis. Aut minue eā si habet M. et proueniet tempus conjunctionis visibilis diebus æquatis.

## Propositio

## Nonā.



**Dea solis & lune vera: & argumentum latitudinis uerū ad tempus visibilis conjunctionis inquirere.**

Cum tēpore distantie visibilis conjunctionis a uera intra tabulam uel motus solis in horis & minutis. & sub argumento solis ad tempus ueræ conjunctionis inueni- to aut sibi uiciniori in tabula in angulo cōmuni motum descriptum adde nota. Et si bis intrandum erit: bis intrabis. Hunc motum adde cum uero loco solis tempore ueræ conjunctionis: si fuerit A. cum distantia visibilis conjunctionis a uera. Aut minue eundem ab eodem si ibi fuerit M. & exhibet uerus locus solis tempore visibilis conjunctionis. Item cum eodem tempore distantie visibilis conjunctionis a uera intra tabulam uel motus lune in horis & minutis. & sub argumento lune ad tempus ueræ conjunctionis prius habito aut sibi uiciniori in angulo cōmuni motum lune reperiū extra scribe. Et si bis intrandū fuerit: bis intrabis. Hunc motum extra scriptum ad locum uerum lune tempore ueræ conjunctionis adde uel minue: sicut iam de sole fecisti. & proueniet uerus locus lune tempore visibilis conjunctionis. Illud idem quoq; quod iam in angulo cōmuni reperiunt habuisti de motu lune adde cum argumento latitudinis lune æquato tempore ueræ conjunctionis: uel minue ab eodem: sicut de sole luna fecisti: & proueniet argumentum latitudinis lune æquatum ad tempus visibilis conjunctionis. Quod si his contentus esse nollis: poteris hæc omnia æquare per tabulas æquationum solis & lune: & motus capitis: ut in quinta sexta & septima doctrinis ostensum est. Sed non inuenies diuersitatem tantam in hoc opere & alioque possit errorem immittere.

## Propositio

## Decima.



**Latitudinē lune uisam tempore visibilis conjunctionis perferutari.**

Ex octaua habes diuersitatem aspectus in latitudine ad tempus visibilis conjunctionis: quam seruari iusseram. Nunc uero reperiēs latitudinem lune ueram. Cum argumento latitudinis lune æquato ex præmissis ad tempus visibilis conjunctionis intra tabulam latitudinis lune in eclipibus: quæ in do signa eius superctus: & gradus & minuta directe sub signis. Aut signa inferctus: & gradus & minuta



directe supra signa. tunc enī in directo gradu & minutoꝝ argumentū latitudinis habebis latitudinē lunæ uerā ab eclipſica. quæ erit diſſiſſima aut ſeptr̄tionalis: aut meridiana: prout titulus iuxta ſignū argu-  
menti latitudinis tui ſuperius aut inferius indicat. Quia latitudinē habitatiſi fuerit meridiana: conſide-  
rā diuerſitatem aspectus in latitudine ſeruatē ſuperius: eo q̄ in omni regione ultra ſecūdi clima uerſus ar-  
ctos ſemp fit diuerſitas in latitudine meridiana: & exhibet latitudo lunæ uſa: quæ erit partis meridiane.  
Si autē latitudo lunæ uera fuerit ſeptr̄tionalis: tunc ſubtrahā eam a diuerſitate aspectus in latitudine: ſi  
diuerſitas fuerit maior latitudinē uerā. & reſiduū erit latitudo lunæ uſa: & partis meridiane. Sed ſi lati-  
tudo uera ſeptr̄tionalis fuerit maior diuerſitate aspectus in latitudine: ſubtrahā diuerſitatem a latitudine  
uera: & remanebit latitudo lunæ uſa: & partis ſeptr̄tionalis.

Propoſitio Undecima.



**S**ol eclipſis ſolis in conjunctione fiat cognoscere:  
et quātitatē eius & durationē: principiū quoq; et  
finem ex tabulis calculare.

Accipe latitudinē lunæ uſam ex præcedēdi reportam ad tempus uſibilis cō-  
iunctionis. Si ea fuerit plus q̄.34. minuta: nō expectes eclipſim ſolis. Sed ſi minor fue-  
rit: fiet eclipſis ſolis. Ideo ſi ſol fuerit augt uicinior q̄ longitudinē ſuæ mediæ: id eſt dū argumentū ſolis  
fuerit minus uno ſigno. i. 5. gradib;: aut plus. i. 10. ſignis. i. 5. gradib;: intra tabulā eclipſis ſolis exiſtentis  
in auge ecētrici: & eſt prima. Si autē fuerit uicinior alteri longitudinē mediarū q̄ augt aut oppoſito eius:  
id ſit dū argumentū ſolis fuerit plus uno ſigno. i. 5. gradib;: & minus. 5. ſignis. i. 5. gradib;: Similiter  
dum fuerit plus. 7. ſignis. i. 5. gradib;: & minus. 10. ſignis. i. 5. gradib;: tūc intra tabulā eclipſis ſolis  
exiſtentis in lōgitudinē mediā ecētrici: & eſt ſecunda. Sed ſi ſol fuerit uicinior oppoſito augt: quod ſit  
dum argumentū eius eſt plus. 4. ſig. i. 5. gradib;: & minus. 7. ſignis. i. 5. gradib;: tūc intra tabulā ecy-  
pſis ſolis exiſtentis in oppoſito augt ecētrici: & eſt tertia. Intra itaq; tabulā ſuā cū minoris latitudinis  
lunæ uſa: quæredō ea a ſiniſtris deorſum: & ſupius cū argumentū lunæ tpe ueræ conſiſtentiōnis habito.  
et in angulo cū inuenies puncta eclipſica & tempus caſus. Et ſi propter gradus argumentū lunæ cū du-  
plicet introitu intrandū ſit: dupliciter intrabiſ: accipiedo de diſſerētis partes proportionales ſim ppor-  
tionē graduū argumentū lunæ ad.30. gradus: & eas addeſ aut minuiſ: ut ſic ſolet in reliquis. Tamen  
ſi ſolū modo cū uicinior ſolis nobis eclipſabitur. Imaginamur enī totā diametrū eſſe. i. 7. puncta. Si igiſ  
habes. 22. puncta in tabula reperta: totus ſol eclipſabit. Si ſex: medietas diametri. Si. 4. tertia pars. Si. 3.  
quarta pars. Si. 2. ſexta pars. Si. 1. duodecima. & ſic de aliis. Tempus uero caſus eſt tempus quod eſt a  
principio eclipſis uſq; ad eius mediū. Tanti etiā nūc ſupponimus a medio eſſe ad finē. Conſiſtētiō autē  
uſibilis eſt medium eclipſis. Ideo ſi tps caſus minuit a tpe conjunctionis uſibilis: habet ſonū principiū  
eclipſis. Sed ſi tempori conjunctionis uſibilis ſuperaddat tēpus caſus: exhibet ſinis eclipſis. Et ſi tempus  
caſus duplicabitur: proueniet eclipſis duratio.

Propoſitio Duodecima.



**L**atitudinē lune uſam ad principiū atq; finē eclipſis

**i**nueſtigare. Latitudinis uſa pro tpe uſibilis conjunctionis: quod nūc mediū  
eclipſis ſupponit: p tabulā latitudinis lunæ repaſ argumentū uſam  
intra dō eadē tabulas cū latitudinē uſa. & in directo eius uerſus dextrā ſi fuerit iuxta ca-  
put draconis: accipe gradus & minuta ſub. 0. ſigno: dū latitudo uſa fuerit ſeptr̄tionalis.  
Aut accipe gra. & m. ſup. 11. ſignis: ſi latitudo uſa fuerit meridionalis. Vel ſi fuerit iuxta cū uſa: accipie  
do gra. & m. ſub ſer ſig. & hoc ſi latitudo uſa fuerit meridionalis. Aut accipiedo gra. & m. ſupra. 5. ſig. ſi  
fuerit ſeptr̄tionalis. Et tale argumentū uocaſ argumentū uſum ſeu argumentū latitudinis lunæ uſa: tpe  
mediæ eclipſis. hoc ſerua. Deinde cū tpe caſus intra tabulā uerū motus lunæ in hora: & quod ibidē ſub  
argumento lunæ repaſ: auſer ab argumentū latitudinis uſa ſam ſeruator: & manebit argumentū latitudi-  
nis lunæ uſa: ad initū eclipſis. Cū quo quæras in tabula latitudinē lunæ: quæ erit tibi latitudo lunæ uſa  
ad initū eclipſis. Itē illud idem quod ſam minuiſti adde ſup idem argumentū latitudinis lunæ uſa  
ad medium eclipſis: & exhibet argumentū latitudinis lunæ uſa: ad finem eclipſis. cū quo quæras in ta-  
b. 4.

bula latitudinē lunæ: quam tenebis pro latitudine lunæ ad finem eclipfis.

## Propositio

xlii.



**S**emidiametros solis et lune visuales ac umbre in loco transitus lune demonstrare.

¶ Tabulā semidiametrorū in tra cū argumēto solis: aut sibi proxime ulciori: & in eius directo reperies quantitatē semidiametri solis visuales, itē cū argumēto lunæ: aequato in eadē tabula inuenies semidiametrum lunæ visualem ac semidiametrum umbræ. Sed hæc semidiameter præsupponit solem esse in auge ecē eticē. Quod si nō fuerit: cum argumēto solis accipe variationē umbræ: & eam a semidiametro umbræ iam reperta demeris: & manebit semidiameter umbræ in loco transitus lunæ. Hæc necessaria est in eclipfis lune: non solis.

## Propositio

xliii.



**Q**uantitatē partis obscurate ac totius eclipsis solaris figurā ad visum depingere.

¶ In superficie plana ptrahe lineā rectā. In eius medio statuas punctum tanq̃ centrū. A quo versus unā eius extremitatū officio circuli sumant̃ tot ptes quales quot sunt minuta in aggregato ex ambabus semidiametris solis & lunæ. Et si in aggregato ultra minuta essent: fm earū pportionē ad unū minutū addas etiā portio unius ex partibus: aut si feda excedunt. 30. pro eis unū minutū accipe. nihil enī erroris quod curandū esset ex hoc fiet. Deinde sup̃ centro statuo fm quantitatē aggregatū semidiametrorū tanq̃ semidiametri fiat circulus: qui dicit̃ circulus aggregatū semidiametrorū solis & lunæ. qui iam diuisus est p lineā primo ptractā in duo æqualia. Ea quidem lineā rectā habeat ulce portionis eclipsicæ. Et eius pars finisita habeat orientalis: dextra occidentalis. Hanc sup̃ centro secet alia orthogonāliter. ea tñ nō sit utilis illis: sed occulta. Hæc occulta est loco portionis circuli transcurrentis p polos zodiaci & locū solis in ecliptica. Huius pars superiorem habeat meridiana: inferior septentrionalis. Postea fm quantitatē semidiametri solis visuales sup̃ priori centro fiat circulus: qui superficie solis repræsentabit. Deinde signabis in lineā occulta duo puncta. Vtū quidē a centro distans fm quantitatē latitudinis lunæ visæ ad initium eclipsis. Aliud a centro distans fm quantitatē latitudinis lunæ visæ ad finē eclipsis. Et quodlibet istorū distet a centro versus eam partē: aut meridiei aut septentrionis: ut latitudo visā fuerit. A puncto aut̃ latitudinis visæ ad initium eclipsis ducat̃ paralellā eclipsicā: uidelicet lineæ primo ptracte usq̃ ad circū ferentiā circuli maioris in parte occidentali. Et punctus sectionis huius paralellæ cum circumferentiā circuli maioris significat locū centrū lunæ visum ad initium eclipsis. Similiter a puncto latitudinis visæ ad finē eclipsis ducat̃ paralellā usq̃ ad circumferentiā circuli maioris in parte orientali. Et punctus sectionis huius paralellæ cum circumferentiā maioris circuli designat locum centri lunæ visum ad finē eclipsis. Dnc etiā lineā rectā a loco centri lunæ visū in principio eclipsis ad locū eius in fine eclipsis. Hæc significat iter lunæ ab initio eclipsis ad finē. Eam p mediū æqualiter diuiset. & punctus mediū significabit locū centri lunæ in medio eclipsis. Vltimo fm quantitatē semidiametri lunæ visuales in tribus locis centroꝝ lunæ: scilicet principi mediū & finis eclipsis fiant tres circuli super ea tria centra: qui representabunt lunam in principio medio & fine eclipsis. Quantum itaq̃ mediū eorum de circulo solis occupabit: tantum p proportionabiliter de superficie corporis solis eclipsiabitur.

## Propositio

xv.

**Q**uantitatem eclipsis lune: durationē eius: principium quoq; & finē ipsius discernere.

¶ Prius habes tempus oppositiōis: uerā diebus aequalis: argumētū lunæ aequalit̃: atq; argumētū latitudinis aequalit̃ ex sexta & septima doctrinis. Nunc cum



argumēto latitudinis lune intra tabulā latitudinis lune & inuenias eius latitudinē ut in decima dictū est. Quā cū sua parte nota: nam est latitudo lune uera in hora ueræ oppositionis. Quæ si fuerit plus q̄ sexagintaquinq; minuta/non expectabis eclipsem lune. Quod si minor fuerit/intra cum ea in tabulam eclipſis lune/in illam dico tabulam/quæ deferuiat loco solis. Nam si sol fuerit uicior augi q̄ longitudo diui sui eccentrici mediæ/intrabis tabulam eclipſis lune sole existente in auge. Si autē uicior fuerit longitudini mediæ q̄ augi aut eius opposito: intra tabulam eclipſis lune sole existente in longitudine mediæ. Sed si uicior sit opposito augis q̄ longitudini mediæ: intra eam quæ dicitur tabula eclipſis lune sole existente in opposito augis eccentrici. Intra in quā tabulam suam/quærendo latitudinem lune a simili stris & argumentū lune superius: & in angulo cōmuni inuenies puncta eclipſica: tempus casus: & tempus moræ dimidiæ: si moram habet. Et si propter gradus lune in argumento dupliciter intrandum sit aut propter secūda in latitudine lune ultra minuta: facies id more solito. Puncta itaq; ostendunt quantā pars diametri lune nobis eclipsetur. Nam si præcisē duodecim sunt puncta: tota luna eclipſabitur sed sine mora. Si pauciora duodecim: pars tū eclipſabitur. Tanta quidem portio de diametro obſcurabitur: quanta puncta inuenta sunt pars de duodecim. Si uero plura fuerint puncta de duodecim: tota luna eclipſabitur cum mora. Et significant: q̄ si luna adhuc maior esset/ita q̄ diameter sua tot haberet puncta: quot sunt inuenta in tabula/adhuc tota eclipſaretur: sed sine mora. Tempus uero casus si nō habet moram/est tempus a principio eclipſis usq; ad medium. & tantum etiam supponitur nunc a medio ad finem. Ideo ipsum aufer ab oppositione uera diebus æquatis prius habita: & remanebit initium eclipſis. Item ipsum eidem adde: & habebis finem. Item duplicatum facit durationem. Sed si moram habuerit eclipſis: nunc tempus casus est tempus ab initio eclipſis usq; ad principium totalis obscuratiōis. Et tempus moræ dimidiæ est tempus ab initio totalis obscuratiōis ad medium eclipſis. quod nūc intrans oppositionis ueræ diebus æquatis supponimus. Ideo tempus dimidiæ moræ demptum a tempore oppositionis ueræ reliquit principium totalis obscuratiōis. Et additum eidem efficit finem totalis obscuratiōis. Et duplicatum ostendit totalis obscuratiōis durationem. Item tempus casus & dimidiæ moræ simul sublatum a tempore ueræ oppositionis indicat principium eclipſis. Et super additum eidem ostendit finem. Et duplicatum demonstrat durationem ab initio eclipſis usq; ad finem.

## Propositio

## xvi.



**Latitudinem lune ueram ad initium eclipſis similiter ad finem eius ostendere.**

**L** Cum aggregato temporum casus & dimidiæ moræ conjunctione intra tabulam uerū motus lune in horis & minutis. & sub argumento lune in angulo cōmuni reperies uerum motum lune in dicto tempore. Eum ab argumento latitudinis lune ad ueram oppositionem equato demis: & remanebit argumentum latitudinis lune ad initium eclipſis. Cum quo in tabula latitudinis lune queras latitudinem lune ueram ad initium eclipſis. Item eundem motum adde argumento latitudinis ad ueram oppositionem: & pro ueniet argumentum latitudinis equatum ad finem eclipſis. Cum quo similiter queras in tabula sua latitudinē lune ueram ad finem eclipſis: & habebis interitum.

## Propositio

## Decima septima.



**Eclipſis lunaris habitudinem in plano figurare.**

**L** Sicut in pictura solaris eclipſis dictum est/in superficie plana trahatur linea recta quæ teneatur pro portione eclipſice. cuius medius punctus sit centrum umbre in loco transitus lune. A quo uersus unam extremitatem linee sumantur officio circuli tot partes equales/quot sunt minuta i aggregato semidiametro: umbre & lune. Et fm hanc quantitatem aggregati semidiametrorum super centro fiat circulus. & super

## Exemplum

eodem centro alius fin quantitatem semidiametri umbre: qui habeatur pro circulo umbre. Et sint in hanc figuratone quatuor partes mundi Oriens: Occidens: Meridies: Septentrionis in figura eclipfis solaris. Item linea occulta orthogonalliter portionem ecliplice fecans super centro circulorum. In qua similiter duo puncta a centro distantia fin latitudines lune ueras ad principium & finem eclipfis signentur: uersus eas partes: meridies aut septentrionis ut latitudines ipse sunt. Et ab illis punctis ducantur parallele linee prioris. Prima quidem a puncto signante latitudinem lune ad initium eclipfis uersus occidentem. Alia a puncto signante latitudinem ad finem eclipfis uersus orientem. Et incidentie earum edicem ferentia maiores circuli notentur: quia significat loca centri lune ad initium & finem eclipfis. Et illa duo loca per rectam lineam copulentur. que per medium puncto diuidatur: quod signat locum lune in medio totalis obfcuratons. Super illa tria puncta fin quantitatem semidiametri lune uisualis fiant tres circuli: lunam in principio medio & fine significantes. Quantum autem de medio eorum intra circulum a mbre & adit: ardu portionabiliter de luna nobis eclipfabit. Si eni totus intra cadit: tota luna obfcurabitur. Si pars eius intra cadit: pars quoque talis de luna eclipfabitur.



### Orn q̄ de eclipfi solari dicta sunt exēpla subicere.

**P**E Volo inuenire conjunctionem ueram atq; eclipfim que fiet anno domini millesimo quadringentesimo sexagesimo currete: in mense Iulio. Tempus igitur numerationis annorum Christi usq; ad initium mensis Iulii uisualis reperit completum est mille quādringenti & quinquagintanouem anni: & mensis Iunius. Cum quo quidem tempore dum intrauero tabulas mediarum conjunctionum & oppositionum solis & lune: primo in annis collectis apud. 1440. inuenio de tempore dies septem: horas octo: minuta triginta. 33: secunda uiginti septem. De loco solis signa nouem: gradus. 11. minuta. 37. secūda. 14. De argumento lune signa duo: gradus. 23. minuta. 26. secūda. 44. Et de argumento latitudinis signa quatuor gradus. 24. minuta. 59. secūda. 59. Deinde etiam in annis expansis apud. 19. reperio de tempore dies uiginti octo. horas uiginti minuta duodecim: secūda sex. De loco solis signa. 11. gradum. 0. minuta. 59. secūda. 121. De medio argumento lune signa nouem: gradus undecim: minuta octo: secūda sexdecim. De argumento latitudinis signa. 11. gradus. 6. m. 53. secūda. 42. Postea quia annus currens est bisextilis: intro in tabulam mensium bisextilium cum Iunio: & inuenio de tempore dies quatuor: horas decem et nouem: minuta triginta quinq; secūda quadraginta duo. De loco solis signa quinq; gradus uiginti quattuor: minuta triginta octo: secūda uiginti quinq;. De argumento lune signa quinq; gradus quattuor: minuta quinq; uiginti quattuor: secūda tria. De argumento latitudinis signa sex: gradus quattuor: minutum unum: secūda uiginti tria. His tribus ordinibus in unum iunctis Iunio quoque suo generi: exit de tempore dies. 41. hora. 0. minuta. 26. secūda. 15. De loco solis signa duo: gradus septem: minuta quattuordecim: secūda nullum. De argumento lune signa quinq; gradus nouem: minuta uiginti nouem: secūda tria. De argumento latitudinis signa decem: gradus quinq; minuta quinquaginta quattuor: secūda quattuor. Et quia uolo conjunctionem: quero in tabella resolutionum in direccio itell conjunctionis tempus quod proxime malus aggregato temporis superius inuēti reperit ibi: & inuenio dies quinquagintanouem: horam unam: minuta uiginti octo: secūda sex de tempore. De loco solis signum unum: gradus uiginti octo: minuta duodecim: secūda quadraginta octo. De argumento lune signum unum: gradus. 21. minuta. 38. secūda. 1. De argumento latitudinis lune signa duo: gradum unum: minuta uiginti: secūda uiginti octo. Hunc igitur ordinem subscribo ordini prioris aggregatis unis: quod p suo generi: & longo moris motibus. sed tempus inferius a superius scripto subtrahat. & erit de tempore dies decem et octo: hora una: minutum unum: secūda. 51. De loco solis signa quattuor: gradus quinq; minuta uiginti sex: secūda quadraginta octo. De argumento lune signa septem: gradus unum: minuta septem: secūda quattuor. De argumento latitudinis signum nullum: gradus septem: minuta quattuordecim: secūda triginta duo. Est ergo conjunctio solis & lune media quā quiescimus die Iulii decim octo. uia: hora post meridiem prima: minuto. 1. & secūdo. 51. ad meridianum Viennensem. Et ad idem tempus locus solis medius est signa. 4. gra. 5. minuta. 26. secūda. 48. Argumentū lune medium signa. 7. grad. 1. m. 7. 51. 4. Et argumentum latitudinis medium signū. 0. gradus. 7. m. 14. secūda. 32. Nunc pro angē solis habenda cum predicto tempore numerationis annorum Christi intro tabulam augis solis: & apud. 1455. inuenio signa. 3. gra. 0. minuta. 46. secūda. 18. Et morum in anno. 34. secūda. quēta quater. Nunc pro quattuor annis: facit minuta. 2. secūda. 16. Et pro sex mensibus. 17. secūda. Et

## Eclipsis Solis.

pro. 18. dieb. x. fa. Est igitur aux solis ad conjunctionē mediū fig. 3. gra. 0. m. 48. fa. 53. Hanc aufero ex loco solis medio: & relinquitur argumentū solis fig. 1. gra. 4. m. 37. fa. 55. Cū argumento hoc solis: argu-  
mento lunæ priori fig. 7. gra. 1. m. 7. secun. 4. Intro tabulas distantie ueræ conjunctionis aut oppositis a  
media: quædā argumentū solis in parte inferiori: eo q̄ argumentū lunæ plus est sex signis. & argumē-  
tū lunæ in parte dextra ascendendo. Reperio autē argumentū solis proxi- minus signum. 1. gradus. 4.  
Argumentum autē lunæ proxi- minus signa septem gra. 1. In horum angulo cōmuni ponitur horæ  
fig. minuta. 56. Nota autē quæ ab angulo cōmuni uersus argumētum solis procedendo primo occurrīt  
est M. Item differentia solis est sex minuta. quæ procedunt augendo. Item differentia lunæ est octo mi-  
nuta. quibus similiter augetur angulus argumenti lunæ proxi- maioris. De differentia solis pars pro-  
portionalis est duo minuta. quia triginta octo minuta in argumēto solis sunt fere una tertia de duobus  
gradibus. Item de differentia lunæ pars proportionalis est unum minutū. quia septem minuta in argu-  
mēto lunæ sunt fere octaua pars unius gradus. Et quia ambæ partes proportionales sunt addendæ: cō-  
furgit igitur distantia ueræ conjunctionis a media horæ. 6. minuta. 59. cum nota M. Ideo ipsa subtrahē-  
a tpe mediæ conjunctionis remanet tempus ueræ conjunctionis dl. 17. hor. 18. m. 3. fere Iulii diebus nō  
æquatis. De quo quidē tpe si certior fieri cupio: æquarē ad idem tempus solem et lunam. Intrando igitur  
tabulas mediōrū motū inuenio ad hoc tempus medium motum solis fig. 4. gra. 5. m. 9. fa. 36. Mediū  
motum lunæ fig. quatuor. gradum unū. minuta. 36. secūda. 48. Argumentum lunæ signa. 6. gra. 27.  
minuta. 19. fa. 2. Medium motū capitis signa octo. gradum unū. minuta. 46. secūda. 47. Item aufero  
augmētum solis a medio eius motu: & fiet argumentum solis signum unum. gradus quatuor. minuta. 20.  
secūda. 43. Cum hoc inquirō æquationem solis in tabula: & est gradus unus. minuta undecim. secun-  
da quatuor minuenda. Relinquitur ergo uerus motus solis signa quatuor. gradus tres. minuta. 58. se-  
cūda. 32. Item dempto medio motu solis a medio motu lunæ remanet signa undecim. gradus uelut  
fig. minuta uelut septē. secūda duodecim. Hoc duplicatum facit signa undecim gradus uelut duos.  
minuta quinquainginta quatuor. secūda uelut quatuor. centrum lunæ. Cum hoc in tabula æquatio-  
nis lunæ inuenio æquationem centri gradum unū. minuta tria: minuenda. Ea itaq̄ ablata ab argu-  
mento medio remanet fig. 6. gradus. 26. minuta. 16. argumentum lunæ æquatum. Huc correspondet  
æquatio argumenti in tabula grad. 2. m. 21. secun. 45. addenda. Addita igitur ad medium motum  
lunæ facit signa. 4. gradus. 3. minuta. 58. secūda. 33. uerus motum lunæ. Qui differt a uero motu so-  
lis triū in uno secundo. Quæ si duplices faciunt duo secūda temporis: scilicet tricesimam partem unius  
minuti in hora. quæ pro nihilo ponēda sunt. Quare si dimissem illud examen: in nullo fuisset error ha-  
bitus. Sum tamen certior factus. Est itaq̄ cōfictio uerissima ut inuenta est die. 17. hora. 18. minuto. 5.  
fere Iulii diebus non æquatis. Postea si illud examen non fecissem pro loco ueræ conjunctionis reperio  
do facilius cum argumentum solis tempore mediæ conjunctionis: scilicet cum signo. 1. gradibus. 4. m. 37.  
secundis. 55. intrassem tabulam æquationis solis: & in angulo cōmuni ponitur æquatio gra. 1. m. 11.  
secun. 36. minuenda. Item cum tempore distantie ueræ conjunctionis a media: scilicet cū sex horis. 59.  
minutis Intro tabulam uerū motus solis. & sub argumento solis uelut inferiori scilicet sub uno signo inuenio  
motum uerum solis in dicto tempore. 16. minuta. 40. secūda. Quia tempus distantie fuit minuenda  
conjungo cum æquatione: facit gra. 1. minuta. 28. secūda. 16. quæ demo a medio motu solis tempore  
mediæ conjunctionis: & relinquitur signa. 4. gradus. 5. minuta. 58. secūda. 32. uerus locus ueræ con-  
junctionis. Hæc per hanc uiam breuem reperit id quod superius. Illud idem minuo quoq̄ ab argumē-  
to latitudinis medio tempore mediæ conjunctionis reperto. minui etiam motum capitis mediū in præ-  
dicta distantia: qui est fa. 56. & relinquitur argumentum latitudinis lunæ uerum tempore ueræ con-  
junctionis: scilicet signū. 0. gradus. 5. minuta. 45. fa. 20. Idem quoq̄ prouenit si medium motum capitis  
tempore ueræ conjunctionis: scilicet signa octo. gradū unū. minuta. 46. secūda. 47. coniunxissem uero  
loco lunæ tempore ueræ conjunctionis: scilicet fig. 4. gra. 3. m. 58. fa. 33. Nam ex horū additione proue-  
nit fig. 0. gra. 5. m. 45. fa. 20. Pro argumēto quoq̄ lunæ rectificando intrassem tabulam mediū argumē-  
tū lunæ cum tempore distantie: scilicet sex horis. 59. minutis. ibiq̄ ponitur gra. 3. m. 48. secūda. 5.  
Huc coniunxissem pro qualibet hora distantie nouem minuta: & prouenit gradus. 4. minuta. 51. Et  
quia distantia habuit notam M. dempsissem id ab argumēto lunæ medio tempore mediæ conjunctio-  
nis: scilicet a fig. 7. gra. 1. m. 7. & remansit fig. 6. grad. 26. m. 16. argumentū lunæ æquarū ad tps ueræ  
conjunctionis. Hæc qualiter duplici uia idem temp inuenit. Præterea cum loco solis uero tpe ueræ con-  
junctionis Intro tabulam æquationis dierū: & inuenio. 1 x. m. 4 cōfictio tpi ueræ conjunctionis nūc habito: qd

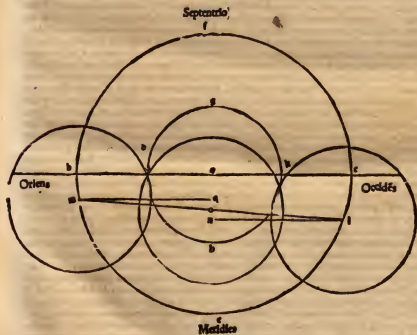
## Exemplum

erat diebus non aequalis. & erit tempus conjunctionis uera diebus aequalis di. 17. ho. 18. m. 15. lull.  
Nunc pro conjunctione uisibili considero distantiam huius temporis a meridie. & est. 5. hore. 45. m.  
Et quia uolo inuenire quantitatem huius eclipfis ad Viennam: Intro tabulas distantie conjunctionis uisibilis a uera: q̄ ordinata ad clima septimum: eo q̄ Vienna in medio fere septimi climatis est. Intro itaq̄ in tabulam Leonis: quod est signum Solis: querēdo horas ante meridiem: & superius in lineis transiet salibus argumentum Lunae. & in angulo cōmuni (facta aequatione per partes proportionales) reperio de tempore horam unam: minuta. 24. & de diuersitate latitudinis. 38. minuta. Similiter facio ingrediēdo tabulam signi sequētis: scilicet uirginis. & inuenio de tempore horam unā: minuta. 36. & de diuersitate latitudinis. 28. minuta. Differentia itaq̄ temporum est. 12. minuta. & differentia diuersitatum est 10. m. Et quia sol ultra principium Leonis est fere quatuor gradibus: & sunt quasi octaua pars unius signi. ergo & pars proportionalls differentie temporum duo minuta fere: & pars proportionalls differentie diuersitatum unū minutū. pars quiddē temporis addenda: sed pars diuersitatis minuenda. Erit itaq̄ distantia uisibilis conjunctionis a uera una hora. 26. m. & minuenda: ut titulus a dextris positus indicat. Diuersitas autē latitudinis aequata erit triginta septem minuta. quae meridionalis est in nostris climatibus semper. Subtraho unam horam. 26. minuta a uera conjunctione diebus aequalis: scilicet diebus. 17. hore. 18. m. 15. lull. & manet dies. 17. hore. 16. m. 49. lull: diebus aequalis. & hoc est tps uisibilis conjunctionis. Deinde cum tempore latit. scilicet hora una. minutis. 26. Intro tabulam ueri motus solis in hore & minutis. & sub argumento solis reperio motum. m. 2. secun. 28. Et quia tempus est dimidiatum / minū quoq̄ hunc motum ex uero loco conjunctionis: & remanet signa quatuor. gradus tres. minuta quatuor. & triginta quinq̄. secundum nullum iuerus locus solis in uisibili conjunctione. Similiter cum eodem tempore Intro tabulam ueri motus lunae in hore. & sub argumento lunae in dicto tempore reperio minuta. 51. secunda. 29. quae dimiduo similiter a uero loco conjunctionis: & habeo signa quatuor. gradus tres. minuta. & triginta quinq̄. secundum nullum locum lunae in uisibili conjunctione. Item minū quoq̄ 51. minuta. 29. secunda ab argumento latitudinis aequato pro uera conjunctione: scilicet a signo. 0. gradibus quinq̄. minutis. 45. secunis. 20. & remanebit argumentum latitudinis aequatum ad horam uisibilis conjunctionis. & est signum nullum. gradus quatuor. minuta. 45. secunda. 44. Cum hoc argumentum latitudinis in tabula latitudinis lunae quero latitudinem: & inuenio eam gra. 0. minū. 26. septentrio nalem. Diuersitas autem latitudinis superius inuenta fuit triginta septem minuta / meridionalis. Aufero itaq̄ minus a maiore: scilicet latitudinem a diuersitate: & manebunt undecim minuta. Tanta est latitudo lunae uisae & meridionalis in uisibili conjunctione. Praterea ut cognoscā si eclipfis fiat: & quantas quia sol est uicinior augi q̄ longitūini mediae eccentrici fuit: Intro tabulam eclipfis solis existens in axe eccentrici sui / sub argumento lunae aequato uiciniori: scilicet septem signis: & cum latitudine lunae uisae nouem minutis. & inuenio in angulo cōmuni puncta octo. minuta. 35. & tempus casus hor. 0. m. 55. Eclipsabuntur itaq̄ incolis Viennae de diametro solis paulo minus q̄ tres quartae. Et initium eclipsis erit die decima septima. hora quita decima. minuto quinquagesimo quarto lull: scilicet triginta quinq̄ minutis fere ante ortum solis. Medium erit hora sexdecima. minuto quadragesimo nono. Finit uero hora decima septima. minuto quadragesimo quarto. Postea cum latitudine lunae uisae scilicet undecim minutis meridiana Intro tabulam latitudinis lunae: querēdo latitudinem undecim minutorum. In cuius directo ponuntur supra. 11. signa gradus. 27. minuta. 55. eo q̄ est meridiana: & iuxta caput & racons. Est ergo argumentum latitudinis uisae in hora uisibilis conjunctionis. Signa undecim. gradus uiginti septem minuta. 55. hoc seruo. Deinde cum tempore casus scilicet quinquaginta quinq̄ minutis Intro tabulam ueri motus lunae in hore & minutis sub argumento lunae uiciniori scilicet septem signis: & inuenio uerum motum lunae in dicto tempore casus triginta tria minuta. Haec aufero ab argumento latitudinis uisae ita habito: & remanebit argumentum latitudinis uisae ad initium eclipsis: & est fig. 11. gra. 27. minuta. 20. Huius latitudo in tabula ponitur. 14. minuta. similiter meridiana. Item lungo eundem motum uerum lunae cum argumento latitudinis uisae seruato: & proueniet argumentum latitudinis uisae ad finem eclipsis: scilicet undecim signa. uiginti octo gradus. uiginti sex minuta. Huic correspondet in tabula latitudinis latitudo meridiana octo minutis. Habes itaq̄ latitudinem usam ad initium eclipsis. 14. m. Ad finem uero octo minuta. & semper meridiana. Deinceps in tabula semidiametrorum cum argumento solis reperio semidiametrum solis uisualem. m. 15. secūda. 47. Et cum argumento lune reperio semidiametrum lune uisualem. m. 17. secūda. 49. Sed omīssis secundis: quia nihil erroris in formando figuram eclipsis ingereundicamus semidiametrum solis uisualem esse sexdecim minuta. & lune. 18. minuta.

## Eclipsis Lunaris.

¶ Tandem ut hanc eclipsis in plano depingam: protraho in medio plani lineam rectam. b. a. c. Et ita medietatem. a. b. pono trigintaquatuor partes iguales / sive numerum minorum in aggregato ex semidiametris solis & lune. Et super. a. f. m. quantitatē. a. b. tanq̃ semidiametri lineabo circulum. b. e. c. f. Et super. b. a. c. sit orthogonalis occulta. f. g. a. e. Et sit. b. pars orientalis. c. occidentalis. e. meridionalis. f. septentrionalis. Itē de partibus. a. b. trigintaquatuor / accipio sexdecim quae sunt. a. d. Scdm eius quantitatem tanq̃ semidiametri solis facio circulum. d. h. k. g. qui solem representabit. Similiter de partibus a. b. trigintaquatuor facio. a. n. in linea occulta undecim / sive latitudinem usam ad initium eclipsis. & hoc in parte. a. e. quae meridiana est: eo q̃ latitudo usā est meridiana. Et. a. q. de eisdem sint sex / sive latitudinem usam ad finem eclipsis. Facio quoq̃. n. l. aequedistantem. a. c. & q. m. aequedistantem. a. b. Et sectiones harum duarum linearum cum circulo maiori sint. l. & m. Deinde duco lineam. l. m. quam per aequa diuido in puncto. o. Super tria puncta. l. o. & m. facio tres circulos sive quodstatem semidiametri lunae. b. d. Quorum primus super. l. significat lunam in principio eclipsis. Secundus super. o. representat lunā in medio eclipsis. Et tertius super. m. designat ipsam in fine eclipsis. Et superficies intra. d. h. k. ostēdit partē solis eclipsatam. Reliqua vero lunula: scilicet. d. g. k. indicat partem eius adhuc luminisam nobis. Linea. l. n. demonstrat latitudinem lune usam ad initium eclipsis. q. m. latitudinem usam ad finem. l. o. m. transcursum lune ab initio eclipsis usq̃ ad finem. Et haec est eius figuratio.

## Figura Eclipsis Solaris Anno Christi, 1460. currēte.





**Et q̄ de eclipſi lunari dicta ſunt exēplo declarare.**

**L** Voluntas ſcientie opponitōni ueram luminariū : & eclipſim lune quæ fiet anno domini. 1460. currente: In menſe decembris. Tempus numerationis chriſti tranſactum uſq; ad initium illius menſis uſualis eſt anni. 1459. et nouember uſualis Cum quo quidem tempore dum intrauero tabulas conſtructionum & opponitōni mediarum primo in annis collectis. 1440. ſibi inuenio de tempore dies. 7. horas. 8. minuta. 39. ſecunda. 17. De loco ſolis ſigna. 9. gradus. 11. minuta. 37. ſecūda. 14. De argumēto lune ſigna. 4. gra. 24. m. 58. fa. 49. hæc extra ſcribo. Item in annis expaſſis in directo. 19. reperio de tēpore dies. 28. ho. 20. m. 12. fa. 6. De loco ſolis ſig. 11. gra. 0. m. 58. fa. 21. De argumēto lune ſigna. 9. gra. 11. m. 8. fa. 16. De argumēto latitudinis ſigna. 11. gra. 6. m. 55. fa. 22. Hæc ſimilit̄ extra ſcribo ſub prius extra notatis: unſiquodq; ſub ſuo ſimili. Deinde quia annus cōtēct̄ eſt biſextilis: Innotatulam meſium biſextilis cum nouembre: ſibi iuenio de tēpore ſigna. 10. gra. 5. m. 55. ſecūda. 26. De loco ſolis ſigna. 10. gra. 20. m. 10. ſecūda. 26. De argumēto lune ſig. 9. gra. 15. m. 59. ſecūda. 6. De argumēto latitudinis lune ſigna. 11. gra. 7. m. 22. ſecūda. 31. Hæc quoq; ſub priorib; extra poſui ordinatib;. Hos tres ordines aggregabo: puenietq; in tpe dies. 46. ho. 8. m. 45. ſecūda. 59. In loco ſolis ſig. 7. gra. 2. m. 46. ſecun. 1. In argumēto lune ſig. 9. gra. 18. m. 34. ſecūda. 6. In argumēto latitudinis autē ſig. 3. gra. 9. m. 15. ſecūda. 12. In tabella uero reuolutōni in directo tūali opponis quia quæro opponitōni tēp̄ p̄ proximē malus tpe meo iueniſſi di. 37. ho. 19. m. 50. ſecun. 8. Et de loco ſolis ſig. 2. gra. 12. m. 46. ſecun. 1. De argumēto lune ſig. 8. gra. 4. m. 32. ſecūda. 31. De argumēto latitudinis ſigna. 8. gra. 16. m. 40. ſecūda. 34. Eundē ſiḡ ordinē extra ſcribo ſupra aggregatū medi: tps quidē ſupra tps: & motus ſub motib; uel ſupra: & motus longā motib; tps autē diſtinuā ex tpe: & exhibi tps me de oppōnīs di. 27. ho. 11. m. 4. ſecun. 9. decemb. Et locus ſolis medi: & nadir lune ſig. 9. gra. 15. m. 32. ſecun. 2. Et argumētū lune mediū ſigna. 5. gra. 23. m. 8. ſecun. 37. Argumētū quoq; latitudinis medii lune ſigna. 11. gra. 25. m. 55. ſecūda. 46. Hæc ſeruo. Deinde augē ſolis reperio in tabula augis paratū in directo anni. 1460. cōpleti. nam. 4. dies augē ſolis non mutat; & eſt ſig. 3. gra. 0. m. 149. ſecun. 9. Ablata ex loco ſolis medio manet argumētū ſolis ſigna. 6. gra. 14. m. 42. ſecun. 55. Cum hoc argumēto ſolis & cū argumēto lune ſam ſeruatō Innotatulas diſtātie uere conſtructionis aut oppōnīs a me dia: querendo argumētū ſolis ſuperius: & argumētū lune in ſiniftris lineis deorſum. & reperio argumētū ſolis proximē minus in tabula ſig. 6. gra. 14. Argumētū autē lune ſig. 5. gra. 23. In horū angulo cōl ponit diſtātia. 2. ho. 6. minuta. quā ſigno p notā. que proximē occurrit eundo uerſus argumētum ſolis. Et diſtātia ſolis eſt. 8. minuta. que pcedit augendo. Et diſtātia lune eſt. 10. minuta. q̄ pcedit minuendo. Pars proportionalis de diſtātia ſolis eſt. 3. minutas: quā minuta in argumēto ſolis ſunt paulo plus q̄ una tertia de duobus gradibus. ſic etiam. 3. ſunt paulo plus q̄ una tertia de octo. Pars autē proportionalis de diſtātia lune eſt unū minutū. Sicut enim in argumēto lune ſunt ſere una decima unus gradus: ita etiam unū minutum eſt una decima de decem. Addita parte ſolis: & diminuta parte lune exit diſtātia uere opponitōnis a media hoſ. 2. m. 8. cum nota additōnis. Addam ſiḡ hanc diſtātia cum tempore medie opponitōnis: & proueniet tempus uere opponitōnis di. 27. hoſ. 13. m. 12. decembris dieb; nō equat̄is. Si tamen de hoc tempore certior fieri cupio: ad ipſum reperio uera loca luminariū. Ex tabulā mediorū motū inuenio motū ſolis mediū ad hoc tempus ſig. 9. grad. 15. m. 37. fa. 17. Motū lune mediū ſig. 3. gra. 16. m. 42. fa. 12. Argumētū lune mediū ſig. 5. gra. 24. m. 16. ſecūda. 19. Medium autem motum capitis ſigna octo: gradus decem: minuta. 24. ſecunda. 2. Ablata augē ſolis a medio elius motu manet argumētum ſolis ſigna. 6. gradus. 14. minuta. 48. ſecunda. 8. Cui in tabulā equatōnis ſolis cōreſpondet equatio gra. 2. 0. m. 34. ſecun. 28. cum nota additōnis. Ea ſiḡitur addita ad locum ſolis medii proueniet uerus locus ſolis ſigna. 9. gradus. 16. minuta. 11. ſecūda. 45. Item ſubtracto medio ſolis a medio lune: & relictum ſi duplica uero: exit centrum lune ſig. 0. gra. 2. m. 10. fa. 0. Huc cōreſpondet in tabulā equatōnis lune equatio cētri gra. 0. m. 20. cum nota A. Addam ſiḡ eā ad argumētū mediū lune: & ſit argumētū lune cētri ſig. 5. gra. 24. m. 36. Huc cōreſpondet cētri argumētū grad. 0. m. 50. ſecunda. 25. cum nota M. Illa ſiḡ ablatā a medio motu lune remanet uerus locus lune ſigna. 3. gra. 16. m. 11. ſecūda. 52. Ecce uerus locus lune diſtātia uero loco ſolis tū in ſeptem ſecundis. que ſi duplicata fuerint: faciunt quattuordecim ſecunda temporis. Quæ quia minus ſunt q̄ quarta pars unius minuti: pro nihilo reputo. Ergo omiſſo hoc examine non fuiſſet error. tamen certior factus ſu



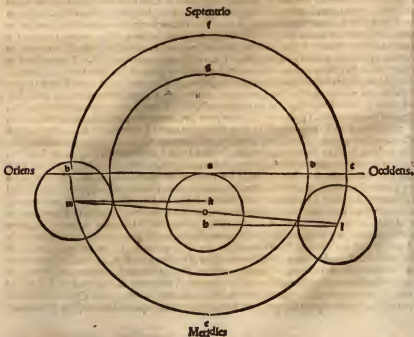
## Eclipsis Lunaris.

beo oppositionem uerisimilam: quæ Inuenta est die. 27. hora. 13. m. 12. decembris diebus non æquatis. Pro uero loco solis in oppositione: si nō rectificassem solem: inueni intrassem cū argumēto solis tempore mediz oppositionis tabulam æquationis solis: ibiq; inuenissem æquationē solis gr̃a. 0. m. 34. fa. 17. cum nota A. Item cum tempore distantie ueræ oppositionis a media & cū argumēto solis intrassem in tabulam ueri motus solis in horis & minutis: ibiq; inuenissem motū solis gr̃a. 0. m. 5. fa. 27. similiter cum nota A. quia distantia talem notam habuit. Coniuncta hæc duo faciūt gr̃a. 0. m. 39. fa. 44. cum nota A. hæc inuenissem medio loco mediz oppositionis: & exiisset locus uerus solis in uera oppositione signa. 9. gra. 16. m. 11. fa. 46. Hæc breui uia repperissem id quod superius. Illud idem scilicet gradū. 0. m. 39. fa. 44. cum medio motu capitis in tempore dictæ distantie scilicet cum. 14. secundis longo argumento latitudinis medio tempore mediz oppositionis: proueniet signa. 11. gra. 26. m. 35. secunda. 47. argumentū latitudinis uerū tempore ueræ oppositionis. Quod si alia uia examinare placet: superius habui mediū motū capitis fig. 8. grad. 10. m. 24. secun. 2. & uerum locum lunæ seu nadir solis signa. 3. grad. 16. m. 11. fa. 45. Hæc duo coniuncta faciunt signa. 11. grad. 26. m. 35. secunda. 47. quod iterum cum priori concordat. Pro argumento quoq; lunæ rectificando intrassem tabulam mediū argumētū lunæ cum distantia predicta: ibiq; inuenissem motum sibi correspondentem fig. 0. m. 9. fa. 40. Huic addidissem pro qualibet hora distantie. 9. minuta: faciunt. 19. minuta. et exiissent fig. 0. gra. 1. m. 28. secunda. 40. Hoc totum addidissem ad argumentum lunæ medium in media oppositione habuimus: & exiisset argumētum lunæ æquatum ad ueram oppositionem fig. 5. gra. 24. m. 35. secunda. 17. quod etiam superior uia similiter repperi. Nam licet uno minuto sit distantia: ea tamē nihil erroris efficere potest in rebus sequentibus. Præterea cum loco solis uero tempore ueræ oppositionis intro tabulam æquationis dictam: ibiq; reperio æquationem dictam octo minuta. ea longo cum tempore ueræ oppositionis diebus non æquatis: & exiit tempus ueræ oppositionis diebus æquatis dies. 27. hor. 13. m. 20. decembris. & illud ut nunc supponimus medium eclipsis esse. Postea opus est habere latitudinem lunæ uerā: & in reperio cum argumēto latitudinis æquato ad tempus ueræ oppositionis: & inuenio eam in tabula. 17. minuta. 46. secunda. meridionalem. Cum hac latitudine cognoscimus: si eclipsis fiat: & quanta. quia sol uicinoior est oppositio angulis ecētrici q̃ longitudinibus mediusur argumentum suum indicat. Intrando tabulas eclipsis lunæ sole existente in opposito angulis ecētrici. quæram superius argumentum lunæ æquatum: & in latere sinistro latitudinē lunæ. Argumentum proximo minus in tabula positum est. 5. signa. Similiter latitudō lune proximo minor in tabula est. 17. minuta. In horum angulo cōmuni sunt pūcta ecliptica. 15. m. 32. Tempus casus hora. 1. m. 9. Tempus dimidiæ moræ. m. 39. Et quia in argumēto lunæ ultra signa sunt. 24. gra. & ultra minuta latitudinis sunt. 49. secunda. ideo uideo differentiam sequentium angulorum. & est ex parte argumenti differentia pūctorum sex. quæ pcedit augēdo. Cuius pars pportionalis est. m. 5. Item differentia ex parte latitudinis est. m. 20. q̃ pcedit dīminuēdo. Cuius pportionalis ē. m. 16. Erūt igit pūcta æq̃ta ecliptica. 15. m. 21. q̃re tota luna eclipsibilis. Tps aut casus cū sic per partes proportionales æquati fuerit. erit hō. 1. m. 10. Tempus uero dimidiæ moræ erit. m. 38. Hæc duo tēpora iuncta faciunt horā. 1. m. 48. tempus dimidiæ durationis eclipsis. Ablato igitur a medio eclipsis item etiam addidit habebimus initium eclipsis. die. 27. hora. 11. m. 32. decembris. & finē die. 27. hora. 15. m. 8. decembris diebus æquatis. Item ablatā dimidiā morā: & eadem additā habebimus initium totalis obscuratiōis die. 27. hora. 12. m. 42. Finē totalis obscuratiōis die. 27. hora. 17. m. 58. Erūt itaq; duratiō totalis obscuratiōis. 1. hora. 16. m. 11. u. ta. Tanto nāq; tēpore luna stabit in umbra totaliter obscurata. Duratiō autē eclipsis ab initio usq; ad finem erit hor. 3. m. 36. Deniq; cum tēpore dimidiæ durationis scilicet hora. 1. m. 48. & cum argumēto lunæ æquato intro tabulam ueri motus lunæ in horis & fractionibus: & inuenio uerū motū lunæ in eod. m. tēpore esse signū. 1. gra. 4. m. 44. Hunc minuto ab argumēto latitudinis æquato ad ueram cōpositionem: itemq; addidit: & proueniet argumētum latitudinis lunæ æquati ad principium eclipsis fig. 1. gra. 25. m. 31. secun. 3. Et ad finem fig. 11. gra. 27. m. 40. secun. 31. Cum his quæto latitudinē lunæ in tabula latitudinis lunæ. Et erit latitudo lunæ ad initium eclipsis. m. 23. secun. 31. meridionalis. Ad finem uero. m. 12. secun. 11. similiter meridiana. Deinceps in tabula semidiametrorū cum argumento lunæ inuenio semidiametrū lunæ. m. 18. secun. 3. Vmbre uero. m. 46. secun. 55. Sed cum sol non sit in auge: intro etiā cū argumēto solis: & inuenio uariationē umbræ. 55. scda. Quib; a semidiametro umbræ in tabula reperio deamps exiit semidiameter umbræ equata ad locū eclipsis. 46. minuta.

## Exemplum eclypsis Lunarís.

¶ Tandē ut hāc eclypsim lunare in plano figurem: ducta linea recta, b. a. c. pono eius medietatē, a. c. 64. partes: eo q̄ in aggregato semidiametrorū lunæ & umbræ sunt. 64. minuta. & sup. a. tanq̄ centro fm̄ quantitatē semidiametri, a. c. facio circulo, b. e. c. f. qui erit diametrorū umbræ & lunæ uisualium. & e. a. b. erit loco partis eclypticæ: quā lunā ab initio eclypsis usq̄ ad finē perambulat sup̄ eā. & stat e. a. f. orthogonalis occulta. & sit. b. pars orientalis, c. occidentalis, e. meridionalis, f. septentrionalis. Deinde officio circuli facio, a. d. partū. 46. fm̄ quantitatē semidiametri umbræ: & sup. a. tanq̄ centro fm̄ eandem quantitatē facio circuli, d. g. qui circuli umbræ in loco trāsitus lunæ representabit. Iterū officio circuli cōstituo, a. h. 23. partū & medietatē, e. fm̄ quantitatē latitudinis in principio eclypsis: quæ meridiana est. Et hoc de partibus lineæ, a. c. Item, a. k. uersus eandem partē in occulta linea habeat. 12. partes & quartam unius fm̄ quantitatē latitudinis lunæ in fine eclypsis. aut (si uoles) omittit fractiones. Deinde duco h. l. aq̄ distantē, a. c. q̄ fecit circūferentiā, e. c. f. in p̄cto. l. Sicut duco, k. m. aq̄ distatē, a. b. culus sectio cum periferia, e. b. f. sit. m. & ducta linea, l. m. diuisa q̄ p̄ medietatē in, o. facio tres circulos fm̄ quantitatē semidiametri lunæ scilicet, c. d. in tribus locis sup̄ tria centra, l. o. m. & sic habebimus figurā depictā. In q̄ circulus, g. d. significat circuli pyramidis umbræ in loco trāsitus lunæ. Et circulus sup. l. designat lunā in principio eclypsis dū in umbrā terræ ingredit. Et circulus sup. o. representat eam in medio eclypsis. Et quantū hic circulus p̄fundat in circulo umbræ uersus centrum, a. tantū proportio nabiliter corp⁹ lunæ p̄fundabit in pyramide umbræ terræ uersus axem seu nadir solis appropinquādo. Circulus autē sup. m. demonstrat lunā in fine eclypsis dum umbram primo tota egressa est. Et linea l. o. m. significat trāsitu lunæ ab initio eclypsis usq̄ ad finē. Si placuerit poteris quoq̄ lunā figurare in principio totalis obscurationis: atq̄ in fine eius: scilicet in principio more & in fine: fm̄ eandem quantitatem semidiametri lunæ uisualis, & sic haberes eam signatā in quinque locis, & semper erit centrum eius in linea trāsitus eius a principio ad finem.

¶ Figuratio Eclypsis Lunarís Ad annū Christi, 1460. currentem.





# Tabula mediarū pſictionū & oppoſitionū Solis & Lune.

## In annis chriſti collectis & completis.

| Anni<br>rpi col<br>lecti<br>et col | Tempus |     |    |    | Notas<br>ſol & lune<br>medi |    |    |    | Argumenti<br>lune<br>medi |    |    |    | Argumenti<br>latitudinis<br>lune medi |    |    |    |
|------------------------------------|--------|-----|----|----|-----------------------------|----|----|----|---------------------------|----|----|----|---------------------------------------|----|----|----|
|                                    | die    | hor | mi | ſe | o                           | g  | m  | ſe | o                         | g  | m  | ſe | o                                     | g  | m  | ſe |
| 1400                               | 15     | 0   | 3  | 37 | 9                           | 3  | 47 | 38 | 8                         | 24 | 6  | 56 | 2                                     | 23 | 5  | 24 |
| 1440                               | 7      | 8   | 38 | 27 | 9                           | 11 | 37 | 14 | 2                         | 21 | 26 | 44 | 4                                     | 24 | 58 | 39 |
| 1480                               | 29     | 5   | 57 | 20 | 8                           | 20 | 30 | 26 | 7                         | 26 | 57 | 32 | 5                                     | 26 | 12 | 21 |
| 1520                               | 21     | 14  | 12 | 11 | 8                           | 28 | 10 | 2  | 1                         | 26 | 17 | 20 | 7                                     | 28 | 5  | 56 |
| 1560                               | 11     | 21  | 7  | 1  | 9                           | 5  | 59 | 38 | 7                         | 25 | 17 | 9  | 9                                     | 29 | 59 | 41 |
| 1600                               | 6      | 7   | 41 | 52 | 9                           | 11 | 49 | 14 | 1                         | 24 | 56 | 57 | 0                                     | 1  | 51 | 6  |
| 1640                               | 28     | 5   | 0  | 45 | 8                           | 22 | 32 | 25 | 6                         | 28 | 27 | 45 | 1                                     | 3  | 6  | 28 |
| 1680                               | 20     | 13  | 15 | 35 | 9                           | 0  | 22 | 1  | 0                         | 27 | 47 | 32 | 3                                     | 5  | 0  | 3  |
| 1720                               | 12     | 22  | 10 | 26 | 9                           | 8  | 11 | 37 | 6                         | 27 | 7  | 21 | 5                                     | 6  | 51 | 38 |
| 1760                               | 5      | 6   | 45 | 16 | 9                           | 16 | 1  | 13 | 0                         | 26 | 27 | 9  | 7                                     | 8  | 47 | 14 |
| 1800                               | 27     | 4   | 4  | 10 | 8                           | 24 | 44 | 25 | 5                         | 29 | 57 | 57 | 8                                     | 10 | 0  | 35 |
| 1840                               | 19     | 12  | 39 | 0  | 9                           | 2  | 34 | 1  | 11                        | 29 | 17 | 45 | 10                                    | 11 | 54 | 11 |
| 1880                               | 11     | 21  | 13 | 51 | 9                           | 10 | 21 | 37 | 5                         | 28 | 37 | 34 | 0                                     | 11 | 47 | 46 |
| 1920                               | 4      | 5   | 48 | 41 | 9                           | 18 | 13 | 13 | 11                        | 27 | 57 | 22 | 2                                     | 15 | 41 | 21 |
| 1960                               | 26     | 1   | 7  | 34 | 8                           | 26 | 56 | 25 | 5                         | 1  | 28 | 10 | 3                                     | 16 | 54 | 41 |
| 2000                               | 18     | 11  | 42 | 25 | 9                           | 4  | 46 | 0  | 11                        | 0  | 47 | 58 | 5                                     | 18 | 48 | 18 |
| 2040                               | 10     | 20  | 17 | 15 | 9                           | 12 | 15 | 36 | 5                         | 0  | 7  | 47 | 7                                     | 20 | 41 | 51 |
| 2080                               | 3      | 4   | 52 | 6  | 9                           | 20 | 25 | 12 | 10                        | 29 | 27 | 35 | 9                                     | 22 | 35 | 28 |
| 2120                               | 25     | 2   | 10 | 59 | 8                           | 29 | 8  | 24 | 4                         | 2  | 58 | 23 | 10                                    | 23 | 49 | 0  |
| 2160                               | 17     | 10  | 45 | 49 | 9                           | 6  | 58 | 0  | 10                        | 2  | 18 | 11 | 0                                     | 25 | 42 | 25 |
| 2200                               | 9      | 19  | 20 | 40 | 9                           | 14 | 47 | 36 | 4                         | 1  | 38 | 0  | 2                                     | 27 | 36 | 1  |
| 2240                               | 2      | 3   | 55 | 30 | 9                           | 21 | 37 | 12 | 10                        | 0  | 57 | 48 | 4                                     | 29 | 29 | 36 |
| 2280                               | 24     | 1   | 14 | 24 | 9                           | 1  | 20 | 24 | 3                         | 4  | 28 | 36 | 6                                     | 0  | 42 | 57 |
| 2320                               | 16     | 9   | 40 | 14 | 9                           | 9  | 10 | 0  | 9                         | 3  | 48 | 24 | 8                                     | 2  | 36 | 13 |
| 2360                               | 8      | 18  | 24 | 4  | 9                           | 16 | 59 | 36 | 3                         | 3  | 8  | 13 | 10                                    | 4  | 30 | 8  |
| 2400                               | 1      | 3   | 58 | 55 | 9                           | 24 | 49 | 12 | 9                         | 2  | 28 | 1  | 0                                     | 6  | 23 | 43 |
| 2440                               | 23     | 0   | 17 | 48 | 9                           | 3  | 32 | 23 | 2                         | 5  | 50 | 49 | 1                                     | 7  | 37 | 5  |
| 2480                               | 15     | 8   | 52 | 39 | 9                           | 11 | 21 | 59 | 8                         | 5  | 18 | 37 | 3                                     | 9  | 30 | 40 |
| 2520                               | 7      | 17  | 27 | 29 | 9                           | 19 | 11 | 35 | 2                         | 4  | 18 | 26 | 5                                     | 11 | 24 | 15 |
| 2560                               | 0      | 2   | 2  | 20 | 9                           | 27 | 1  | 11 | 8                         | 3  | 58 | 14 | 7                                     | 12 | 17 | 51 |
| 2600                               | 21     | 23  | 21 | 11 | 9                           | 5  | 44 | 21 | 1                         | 7  | 29 | 2  | 8                                     | 14 | 31 | 12 |
| 2640                               | 14     | 2   | 56 | 3  | 9                           | 13 | 33 | 59 | 7                         | 6  | 48 | 50 | 10                                    | 16 | 24 | 47 |
| 2680                               | 6      | 16  | 30 | 54 | 9                           | 21 | 23 | 35 | 1                         | 6  | 8  | 39 | 0                                     | 18 | 18 | 21 |
| 2720                               | 28     | 12  | 49 | 47 | 9                           | 0  | 6  | 47 | 6                         | 9  | 39 | 27 | 1                                     | 19 | 21 | 45 |
| 2760                               | 20     | 22  | 24 | 38 | 9                           | 7  | 56 | 23 | 0                         | 8  | 59 | 15 | 3                                     | 21 | 25 | 20 |
| 2800                               | 12     | 6   | 59 | 28 | 9                           | 15 | 45 | 58 | 6                         | 8  | 19 | 3  | 5                                     | 23 | 18 | 56 |
| 2840                               | 5      | 15  | 34 | 18 | 9                           | 23 | 35 | 34 | 0                         | 7  | 38 | 51 | 7                                     | 25 | 12 | 31 |
| 2880                               | 27     | 12  | 52 | 12 | 9                           | 2  | 18 | 46 | 5                         | 11 | 9  | 40 | 8                                     | 26 | 25 | 53 |
| 2920                               | 19     | 21  | 28 | 2  | 9                           | 10 | 8  | 22 | 11                        | 10 | 29 | 28 | 10                                    | 28 | 19 | 28 |
| 2960                               | 12     | 6   | 3  | 51 | 9                           | 17 | 57 | 58 | 5                         | 9  | 49 | 16 | 1                                     | 0  | 13 | 3  |
| 3000                               | 4      | 14  | 17 | 41 | 9                           | 25 | 47 | 34 | 11                        | 9  | 9  | 5  | 3                                     | 2  | 6  | 38 |
| 3040                               | 26     | 11  | 56 | 37 | 9                           | 4  | 30 | 46 | 4                         | 12 | 39 | 53 | 4                                     | 3  | 20 | 0  |

# Tabula mediarū p̄fectionū & oppositionū Solis & Lune.

## In annis christi expansis & completis.

| Anni<br>cristi<br>panis<br>et cō | Tempus |      |     |    | Dorus<br>fol & lune<br>medij<br>° ' " | Argumenti<br>lune<br>medij<br>" |    |    |    | Argumenti<br>latitudinis<br>lune medij<br>" |    |    |    |    |    |    |    |    |    |    |
|----------------------------------|--------|------|-----|----|---------------------------------------|---------------------------------|----|----|----|---|----|----|----|----|----|----|----|----|----|----|
|                                  | pctu.  | dica | hor | mi |                                       | fa                              | °  | '  | mi | fa  | °  | '  | mi | fa |    |    |    |    |    |    |
|                                  |        |      |     |    |                                       |                                 |    |    |    |   |    |    |    |    |    |    |    |    |    |    |
| 1                                | 10     | 15   | 11  | 23 | 24                                    | 11                              | 19 | 16 | 50 | 20  | 10 | 9  | 48 | 6  | 50 | 0  | 8  | 2  | 45 | 18 |
| 2                                | 21     | 6    | 22  | 47 |                                       | 11                              | 8  | 33 | 41 |   | 9  | 19 | 36 | 14 |    | 0  | 16 | 5  | 30 |    |
| 3                                | 2      | 8    | 50  | 7  |                                       | 11                              | 26 | 56 | 55 |   | 7  | 25 | 13 | 22 |    | 1  | 24 | 48 | 29 |    |
| 4                                | 14     | 0    | 1   | 31 |                                       | 11                              | 16 | 13 | 45 |   | 6  | 5  | 1  | 29 |    | 2  | 2  | 51 | 15 |    |
| 5                                | 24     | 15   | 12  | 54 |                                       | 11                              | 5  | 30 | 36 |   | 4  | 14 | 49 | 36 |    | 3  | 10 | 54 | 0  |    |
| 6                                | 5      | 17   | 40  | 14 |                                       | 11                              | 23 | 51 | 50 |   | 3  | 20 | 26 | 43 |    | 3  | 19 | 36 | 50 |    |
| 7                                | 16     | 8    | 51  | 38 |                                       | 11                              | 13 | 10 | 41 |   | 2  | 0  | 14 | 50 |    | 3  | 27 | 39 | 44 |    |
| 8                                | 28     | 0    | 3   | 1  |                                       | 11                              | 2  | 27 | 31 |   | 0  | 10 | 2  | 57 |    | 4  | 5  | 42 | 29 |    |
| 9                                | 9      | 2    | 30  | 21 |                                       | 11                              | 20 | 50 | 45 |   | 11 | 15 | 40 | 5  |    | 5  | 14 | 25 | 28 |    |
| 10                               | 19     | 17   | 41  | 45 |                                       | 11                              | 10 | 7  | 36 |   | 9  | 25 | 28 | 12 |    | 5  | 23 | 28 | 13 |    |
| 11                               | 0      | 20   | 9   | 5  |                                       | 11                              | 28 | 30 | 50 |   | 9  | 1  | 5  | 19 |    | 7  | 1  | 11 | 12 |    |
| 12                               | 12     | 11   | 20  | 39 |                                       | 11                              | 17 | 47 | 41 |   | 7  | 10 | 53 | 26 |    | 7  | 9  | 13 | 58 |    |
| 13                               | 23     | 2    | 31  | 52 |                                       | 11                              | 7  | 4  | 31 |   | 5  | 20 | 41 | 33 |    | 7  | 17 | 16 | 43 |    |
| 14                               | 4      | 4    | 59  | 12 |                                       | 11                              | 25 | 27 | 46 |   | 4  | 26 | 18 | 41 |    | 8  | 25 | 59 | 42 |    |
| 15                               | 14     | 20   | 10  | 36 |                                       | 11                              | 14 | 44 | 36 |   | 3  | 6  | 6  | 48 |    | 9  | 4  | 2  | 27 |    |
| 16                               | 26     | 11   | 21  | 59 |                                       | 11                              | 4  | 1  | 36 |   | 1  | 15 | 54 | 55 |    | 9  | 12 | 5  | 12 |    |
| 17                               | 7      | 13   | 49  | 30 |                                       | 11                              | 22 | 24 | 41 |   | 0  | 21 | 32 | 2  |    | 10 | 20 | 48 | 11 |    |
| 18                               | 18     | 5    | 0   | 43 |                                       | 11                              | 11 | 41 | 31 |   | 11 | 1  | 20 | 9  |    | 10 | 28 | 50 | 57 |    |
| 19                               | 28     | 20   | 12  | 6  |                                       | 11                              | 0  | 58 | 21 |   | 9  | 11 | 8  | 14 |    | 11 | 6  | 53 | 42 |    |
| 20                               | 10     | 22   | 39  | 27 |                                       | 11                              | 19 | 21 | 36 |   | 8  | 16 | 45 | 24 |    | 0  | 15 | 16 | 41 |    |
| 21                               | 21     | 13   | 50  | 50 |                                       | 11                              | 8  | 18 | 26 |   | 6  | 26 | 33 | 31 |    | 0  | 23 | 39 | 26 |    |
| 22                               | 2      | 16   | 18  | 10 |                                       | 11                              | 27 | 1  | 41 |   | 6  | 2  | 10 | 38 |    | 2  | 2  | 22 | 25 |    |
| 23                               | 13     | 7    | 29  | 34 |                                       | 11                              | 16 | 18 | 31 |   | 4  | 11 | 58 | 45 |    | 2  | 10 | 25 | 10 |    |
| 24                               | 24     | 22   | 40  | 57 |                                       | 11                              | 5  | 35 | 21 |   | 3  | 21 | 46 | 52 |    | 2  | 18 | 27 | 55 |    |
| 25                               | 6      | 1    | 8   | 18 |                                       | 11                              | 23 | 50 | 36 |   | 1  | 27 | 24 | 0  |    | 3  | 27 | 10 | 54 |    |
| 26                               | 16     | 16   | 19  | 41 |                                       | 11                              | 13 | 15 | 26 |   | 0  | 7  | 12 | 7  |    | 4  | 5  | 13 | 40 |    |
| 27                               | 27     | 7    | 31  | 4  |                                       | 11                              | 2  | 32 | 17 |   | 10 | 17 | 0  | 14 |    | 4  | 13 | 16 | 25 |    |
| 28                               | 9      | 9    | 58  | 25 |                                       | 11                              | 20 | 55 | 31 |   | 9  | 22 | 37 | 22 |    | 5  | 21 | 50 | 24 |    |
| 29                               | 20     | 1    | 9   | 48 |                                       | 11                              | 10 | 12 | 21 |   | 8  | 2  | 25 | 29 |    | 6  | 0  | 2  | 9  |    |
| 30                               | 1      | 3    | 37  | 2  |                                       | 11                              | 28 | 35 | 36 |   | 7  | 8  | 2  | 36 |    | 7  | 8  | 45 | 8  |    |
| 31                               | 11     | 18   | 48  | 32 |                                       | 11                              | 17 | 32 | 26 |   | 5  | 17 | 50 | 41 |    | 7  | 16 | 47 | 53 |    |
| 32                               | 23     | 9    | 59  | 55 |                                       | 11                              | 7  | 9  | 17 |   | 3  | 27 | 38 | 50 |    | 7  | 24 | 50 | 38 |    |
| 33                               | 4      | 12   | 27  | 16 |                                       | 11                              | 25 | 32 | 31 |   | 3  | 3  | 15 | 58 |    | 9  | 3  | 33 | 37 |    |
| 34                               | 15     | 3    | 18  | 39 |                                       | 11                              | 14 | 49 | 21 |   | 1  | 13 | 4  | 5  |    | 9  | 11 | 36 | 23 |    |
| 35                               | 25     | 18   | 50  | 3  |                                       | 11                              | 4  | 6  | 12 |   | 11 | 22 | 52 | 12 |    | 9  | 19 | 39 | 8  |    |
| 36                               | 7      | 21   | 17  | 23 |                                       | 11                              | 22 | 29 | 26 |   | 10 | 28 | 29 | 19 |    | 10 | 28 | 22 | 7  |    |
| 37                               | 18     | 12   | 28  | 46 |                                       | 11                              | 11 | 46 | 17 |   | 9  | 8  | 17 | 26 |    | 11 | 6  | 24 | 52 |    |
| 38                               | 29     | 3    | 40  | 10 |                                       | 11                              | 1  | 3  | 7  |   | 7  | 18 | 5  | 31 |    | 11 | 14 | 27 | 17 |    |
| 39                               | 10     | 6    | 7   | 30 |                                       | 11                              | 19 | 26 | 21 |   | 6  | 23 | 42 | 41 |    | 0  | 23 | 10 | 36 |    |
| 40                               | 21     | 21   | 18  | 51 | 27                                    | 11                              | 8  | 43 | 11 | 45  | 5  | 3  | 30 | 47 | 49 | 1  | 1  | 13 | 23 | 38 |

# Tabula mediarū pñctionū & oppositionū Solis & Lune.

## In mensibus.

### Menses cōmunes.

| Tempus    |     |      |     | Medius sol & lune mediū<br>© et ☾ |    |    |     | Argumentū lune mediū<br>☾ |    |    |     | Argumentū latitudinis lune mediū<br>☾ |    |    |     |     |
|-----------|-----|------|-----|-----------------------------------|----|----|-----|---------------------------|----|----|-----|---------------------------------------|----|----|-----|-----|
| Menses.   | die | hor. | mi. | se.                               | h. | g. | mi. | se.                       | h. | g. | mi. | se.                                   | h. | g. | mi. | se. |
| Januari.  | 1   | 11   | 15  | 57                                | 0  | 29 | 6   | 24                        | 0  | 25 | 49  | 1                                     | 1  | 0  | 40  | 14  |
| Februari. | 29  | 11   | 15  | 57                                | 0  | 29 | 6   | 24                        | 0  | 25 | 49  | 1                                     | 1  | 0  | 40  | 14  |
| Martius.  | 1   | 9    | 47  | 51                                | 2  | 27 | 19  | 13                        | 2  | 17 | 27  | 2                                     | 3  | 2  | 0   | 41  |
| Aprilis.  | 1   | 21   | 3   | 48                                | 3  | 26 | 25  | 37                        | 3  | 13 | 16  | 2                                     | 4  | 2  | 40  | 55  |
| Maius.    | 4   | 8    | 19  | 45                                | 4  | 25 | 32  | 1                         | 4  | 9  | 5   | 3                                     | 5  | 3  | 21  | 9   |
| Iunius.   | 3   | 19   | 15  | 42                                | 5  | 24 | 38  | 25                        | 5  | 4  | 54  | 3                                     | 6  | 4  | 1   | 23  |
| Julius.   | 5   | 6    | 51  | 39                                | 6  | 23 | 44  | 49                        | 6  | 0  | 43  | 4                                     | 7  | 4  | 41  | 36  |
| Augustus. | 6   | 18   | 7   | 36                                | 7  | 22 | 51  | 14                        | 6  | 26 | 32  | 5                                     | 8  | 5  | 21  | 50  |
| Septemb.  | 7   | 5    | 23  | 33                                | 8  | 21 | 57  | 38                        | 7  | 22 | 21  | 5                                     | 9  | 6  | 2   | 4   |
| October.  | 8   | 16   | 39  | 30                                | 9  | 21 | 4   | 2                         | 8  | 18 | 10  | 6                                     | 10 | 6  | 42  | 18  |
| Novemb.   | 9   | 3    | 55  | 26                                | 10 | 20 | 10  | 26                        | 9  | 13 | 59  | 6                                     | 11 | 7  | 22  | 31  |
| December. | 10  | 15   | 11  | 23                                | 11 | 19 | 16  | 50                        | 10 | 9  | 48  | 7                                     | 0  | 8  | 2   | 45  |

### Menses Bissexiles.

| Menses.   | die | hor. | mi. | se. | h. | g. | mi. | se. | h. | g. | mi. | se. | h. | g. | mi. | se. |
|-----------|-----|------|-----|-----|----|----|-----|-----|----|----|-----|-----|----|----|-----|-----|
| Januari.  | 1   | 11   | 15  | 57  | 0  | 29 | 6   | 24  | 0  | 25 | 49  | 1   | 1  | 0  | 40  | 14  |
| Februari. | 0   | 22   | 31  | 54  | 1  | 28 | 12  | 48  | 1  | 21 | 38  | 1   | 2  | 1  | 20  | 38  |
| Martius.  | 2   | 9    | 47  | 51  | 2  | 27 | 19  | 13  | 2  | 17 | 27  | 2   | 3  | 2  | 0   | 41  |
| Aprilis.  | 2   | 21   | 3   | 48  | 3  | 26 | 25  | 37  | 3  | 13 | 16  | 2   | 4  | 2  | 40  | 55  |
| Maius.    | 4   | 8    | 19  | 45  | 4  | 25 | 32  | 1   | 4  | 9  | 5   | 3   | 5  | 3  | 21  | 9   |
| Iunius.   | 4   | 19   | 15  | 42  | 5  | 24 | 38  | 25  | 5  | 4  | 54  | 3   | 6  | 4  | 1   | 23  |
| Julius.   | 6   | 6    | 51  | 39  | 6  | 23 | 44  | 49  | 6  | 0  | 43  | 4   | 7  | 4  | 41  | 36  |
| Augustus. | 7   | 18   | 7   | 36  | 7  | 22 | 51  | 14  | 6  | 26 | 32  | 5   | 8  | 5  | 21  | 50  |
| Septemb.  | 8   | 5    | 23  | 33  | 8  | 21 | 57  | 38  | 7  | 22 | 21  | 5   | 9  | 6  | 2   | 4   |
| October.  | 9   | 16   | 39  | 30  | 9  | 21 | 4   | 2   | 8  | 18 | 10  | 6   | 10 | 6  | 42  | 18  |
| Novemb.   | 10  | 3    | 55  | 26  | 10 | 20 | 10  | 26  | 9  | 13 | 59  | 6   | 11 | 7  | 22  | 31  |
| December. | 11  | 15   | 11  | 23  | 11 | 19 | 17  | 50  | 10 | 9  | 48  | 7   | 0  | 8  | 2   | 45  |

### Tabella Revolutionum.

| Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. | Ab illo min. |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Oppositio.   | Coniunctio.  | Oppositio.   | Coniunctio.  | Oppositio.   | Coniunctio.  | Oppositio.   | Coniunctio.  | Oppositio.   | Coniunctio.  | Oppositio.   | Coniunctio.  | Oppositio.   | Coniunctio.  | Oppositio.   | Coniunctio.  | Oppositio.   |
| 14           | 18           | 22           | 2            | 0            | 14           | 33           | 12           | 0            | 12           | 54           | 30           | 6            | 15           | 20           | 7            | 0            |
| 29           | 12           | 44           | 3            | 0            | 29           | 6            | 24           | 0            | 25           | 49           | 1            | 1            | 0            | 40           | 14           | 0            |
| 44           | 7            | 6            | 5            | 1            | 13           | 39           | 36           | 7            | 8            | 43           | 31           | 7            | 16           | 0            | 21           | 0            |
| 59           | 1            | 28           | 6            | 1            | 28           | 12           | 48           | 1            | 21           | 38           | 1            | 2            | 1            | 20           | 38           | 0            |
| 74           | 19           | 50           | 8            | 2            | 12           | 46           | 1            | 8            | 4            | 32           | 31           | 8            | 16           | 40           | 14           | 0            |
| 89           | 14           | 12           | 9            | 2            | 27           | 19           | 13           | 2            | 17           | 27           | 2            | 3            | 2            | 0            | 41           | 0            |

# Tabula Fluxus Solis.

| Anni<br>Complet. | Flux |   |    |    |    | Anni<br>Complet. | Flux |   |    |    |    | Anni<br>Complet. | Flux |   |    |    |    |
|------------------|------|---|----|----|----|------------------|------|---|----|----|----|------------------|------|---|----|----|----|
|                  | g    | h | m  | fa | fa |                  | g    | h | m  | fa | fa |                  | g    | h | m  | fa | fa |
| 1400             | 3    | 0 | 14 | 9  | 35 | 1605             | 3    | 2 | 42 | 54 | 28 | 1950             | 3    | 4 | 37 | 39 |    |
| 1405             | 3    | 0 | 17 | 8  |    | 1610             | 3    | 2 | 44 | 18 |    | 1955             | 3    | 4 | 39 | 27 |    |
| 1410             | 3    | 0 | 20 | 6  |    | 1615             | 3    | 2 | 46 | 41 |    | 1960             | 3    | 4 | 41 | 14 | 21 |
| 1415             | 3    | 0 | 23 | 3  |    | 1620             | 3    | 2 | 49 | 3  |    | 1965             | 3    | 4 | 43 | 1  |    |
| 1420             | 3    | 0 | 26 | 0  |    | 1625             | 3    | 2 | 51 | 25 |    | 1970             | 3    | 4 | 44 | 47 |    |
| 1425             | 3    | 0 | 28 | 56 |    | 1630             | 3    | 2 | 53 | 46 |    | 1975             | 3    | 4 | 46 | 33 |    |
| 1430             | 3    | 0 | 31 | 51 |    | 1635             | 3    | 2 | 56 | 6  |    | 1980             | 3    | 4 | 48 | 18 |    |
| 1435             | 3    | 0 | 34 | 45 |    | 1640             | 3    | 2 | 58 | 26 |    | 1985             | 3    | 4 | 50 | 3  |    |
| 1440             | 3    | 0 | 37 | 40 | 34 | 1645             | 3    | 3 | 0  | 45 |    | 1990             | 3    | 4 | 51 | 47 |    |
| 1445             | 3    | 0 | 40 | 33 |    | 1650             | 3    | 3 | 3  | 3  | 27 | 1995             | 3    | 4 | 53 | 30 |    |
| 1450             | 3    | 0 | 43 | 26 |    | 1655             | 3    | 3 | 5  | 21 |    | 2000             | 3    | 4 | 55 | 12 | 20 |
| 1455             | 3    | 0 | 46 | 18 |    | 1660             | 3    | 3 | 7  | 18 |    | 2005             | 3    | 4 | 56 | 54 |    |
| 1460             | 3    | 0 | 49 | 9  |    | 1665             | 3    | 3 | 9  | 55 |    | 2010             | 3    | 4 | 58 | 35 |    |
| 1465             | 3    | 0 | 51 | 59 |    | 1670             | 3    | 3 | 12 | 11 |    | 2015             | 3    | 5 | 0  | 16 |    |
| 1470             | 3    | 0 | 54 | 48 |    | 1675             | 3    | 3 | 14 | 27 |    | 2020             | 3    | 5 | 1  | 56 |    |
| 1475             | 3    | 0 | 57 | 37 |    | 1680             | 3    | 3 | 16 | 42 |    | 2025             | 3    | 5 | 3  | 36 |    |
| 1480             | 3    | 1 | 0  | 25 | 33 | 1685             | 3    | 3 | 18 | 57 |    | 2030             | 3    | 5 | 5  | 15 |    |
| 1485             | 3    | 1 | 3  | 13 |    | 1690             | 3    | 3 | 21 | 11 | 26 | 2035             | 3    | 5 | 6  | 51 |    |
| 1490             | 3    | 1 | 6  | 0  |    | 1695             | 3    | 3 | 23 | 24 |    | 2040             | 3    | 5 | 8  | 31 | 19 |
| 1495             | 3    | 1 | 8  | 47 |    | 1700             | 3    | 3 | 25 | 36 |    | 2045             | 3    | 5 | 10 | 8  |    |
| 1500             | 3    | 1 | 11 | 33 |    | 1705             | 3    | 3 | 27 | 47 |    | 2050             | 3    | 5 | 11 | 45 |    |
| 1505             | 3    | 1 | 14 | 18 |    | 1710             | 3    | 3 | 29 | 57 |    | 2055             | 3    | 5 | 13 | 21 |    |
| 1510             | 3    | 1 | 17 | 3  |    | 1715             | 3    | 3 | 32 | 7  |    | 2060             | 3    | 5 | 14 | 52 |    |
| 1515             | 3    | 1 | 19 | 47 |    | 1720             | 3    | 3 | 34 | 16 |    | 2065             | 3    | 5 | 16 | 32 |    |
| 1520             | 3    | 1 | 22 | 31 | 32 | 1725             | 3    | 3 | 36 | 24 |    | 2070             | 3    | 5 | 18 | 7  |    |
| 1525             | 3    | 1 | 25 | 14 |    | 1730             | 3    | 3 | 38 | 31 | 25 | 2075             | 3    | 5 | 19 | 41 |    |
| 1530             | 3    | 1 | 27 | 57 |    | 1735             | 3    | 3 | 40 | 38 |    | 2080             | 3    | 5 | 21 | 15 | 18 |
| 1535             | 3    | 1 | 30 | 42 |    | 1740             | 3    | 3 | 42 | 45 |    | 2085             | 3    | 5 | 22 | 48 |    |
| 1540             | 3    | 1 | 33 | 28 |    | 1745             | 3    | 3 | 44 | 51 |    | 2090             | 3    | 5 | 24 | 20 |    |
| 1545             | 3    | 1 | 36 | 11 |    | 1750             | 3    | 3 | 46 | 56 |    | 2095             | 3    | 5 | 25 | 54 |    |
| 1550             | 3    | 1 | 38 | 41 |    | 1755             | 3    | 3 | 49 | 1  |    | 2100             | 3    | 5 | 27 | 21 |    |
| 1555             | 3    | 1 | 41 | 20 |    | 1760             | 3    | 3 | 51 | 5  |    | 2105             | 3    | 5 | 28 | 50 |    |
| 1560             | 3    | 1 | 43 | 58 | 31 | 1765             | 3    | 3 | 53 | 9  |    | 2110             | 3    | 5 | 30 | 18 |    |
| 1565             | 3    | 1 | 46 | 36 |    | 1770             | 3    | 3 | 55 | 12 | 24 | 2115             | 3    | 5 | 31 | 45 |    |
| 1570             | 3    | 1 | 49 | 13 |    | 1775             | 3    | 3 | 57 | 14 |    | 2120             | 3    | 5 | 33 | 11 | 17 |
| 1575             | 3    | 1 | 51 | 50 |    | 1780             | 3    | 3 | 59 | 16 |    | 2125             | 3    | 5 | 34 | 37 |    |
| 1580             | 3    | 1 | 54 | 26 |    | 1785             | 3    | 4 | 1  | 17 |    | 2130             | 3    | 5 | 36 | 3  |    |
| 1585             | 3    | 1 | 57 | 2  |    | 1790             | 3    | 4 | 3  | 17 |    | 2135             | 3    | 5 | 37 | 28 |    |
| 1590             | 3    | 1 | 59 | 38 |    | 1795             | 3    | 4 | 5  | 17 |    | 2140             | 3    | 5 | 38 | 52 |    |
| 1595             | 3    | 2 | 2  | 13 |    | 1800             | 3    | 4 | 7  | 16 |    | 2145             | 3    | 5 | 40 | 16 |    |
| 1600             | 3    | 2 | 4  | 48 | 30 | 1805             | 3    | 4 | 9  | 15 |    | 2150             | 3    | 5 | 41 | 39 |    |
| 1605             | 3    | 2 | 7  | 22 |    | 1810             | 3    | 4 | 11 | 13 | 23 | 2155             | 3    | 5 | 43 | 2  |    |
| 1610             | 3    | 2 | 9  | 55 |    | 1815             | 3    | 4 | 13 | 11 |    | 2160             | 3    | 5 | 44 | 25 | 16 |
| 1615             | 3    | 2 | 12 | 37 |    | 1820             | 3    | 4 | 15 | 8  |    | 2165             | 3    | 5 | 45 | 47 |    |
| 1620             | 3    | 2 | 14 | 58 |    | 1825             | 3    | 4 | 17 | 4  |    | 2170             | 3    | 5 | 47 | 9  |    |
| 1625             | 3    | 2 | 17 | 28 |    | 1830             | 3    | 4 | 18 | 59 |    | 2175             | 3    | 5 | 48 | 30 |    |
| 1630             | 3    | 2 | 19 | 57 |    | 1835             | 3    | 4 | 20 | 54 |    | 2180             | 3    | 5 | 49 | 51 |    |
| 1635             | 3    | 2 | 22 | 25 |    | 1840             | 3    | 4 | 22 | 48 |    | 2185             | 3    | 5 | 51 | 11 |    |
| 1640             | 3    | 2 | 24 | 51 | 29 | 1845             | 3    | 4 | 24 | 42 |    | 2190             | 3    | 5 | 52 | 30 |    |
| 1645             | 3    | 2 | 27 | 30 |    | 1850             | 3    | 4 | 26 | 35 | 22 | 2195             | 3    | 5 | 53 | 48 |    |
| 1650             | 3    | 2 | 29 | 47 |    | 1855             | 3    | 4 | 28 | 27 |    | 2200             | 3    | 5 | 55 | 6  | 15 |
| 1655             | 3    | 2 | 32 | 13 |    | 1860             | 3    | 4 | 30 | 19 |    | 2205             | 3    | 5 | 56 | 24 |    |
| 1660             | 3    | 2 | 34 | 39 |    | 1865             | 3    | 4 | 32 | 10 |    | 2210             | 3    | 5 | 57 | 41 |    |
| 1665             | 3    | 2 | 37 | 4  |    | 1870             | 3    | 4 | 34 | 0  |    | 2215             | 3    | 5 | 58 | 57 |    |
| 1670             | 3    | 2 | 39 | 29 |    | 1875             | 3    | 4 | 35 | 50 |    | 2220             | 3    | 6 | 0  | 13 |    |

**Tabula Augis Solis.**

| Anni d'età<br>Complet. | Età |   |    |    |    | Distanza in anno | Età  | Età |   |    |    |    | Distanza in anno | Età  | Età |   |    |    |    | Distanza in anno |
|------------------------|-----|---|----|----|----|------------------|------|-----|---|----|----|----|------------------|------|-----|---|----|----|----|------------------|
|                        | a   | b | m  | Pa | Pa |                  |      | a   | b | m  | Pa | Pa |                  |      | a   | b | m  | Pa | Pa |                  |
| 2145                   | 3   | 6 | 1  | 28 |    |                  | 2500 | 3   | 6 | 55 | 37 |    |                  | 2775 | 3   | 7 | 23 | 23 |    |                  |
| 2146                   | 3   | 6 | 2  | 41 |    |                  | 2505 | 3   | 6 | 56 | 20 |    |                  | 2780 | 3   | 7 | 23 | 41 |    |                  |
| 2147                   | 3   | 6 | 3  | 57 |    |                  | 2510 | 3   | 6 | 57 | 3  |    |                  | 2785 | 3   | 7 | 23 | 58 |    |                  |
| 2148                   | 3   | 6 | 4  | 10 | 14 |                  | 2515 | 3   | 6 | 57 | 45 |    |                  | 2790 | 3   | 7 | 24 | 15 |    |                  |
| 2149                   | 3   | 6 | 5  | 23 |    |                  | 2520 | 3   | 6 | 58 | 26 |    |                  | 2795 | 3   | 7 | 24 | 31 |    |                  |
| 2150                   | 3   | 6 | 7  | 16 |    |                  | 2525 | 3   | 6 | 59 | 7  |    |                  | 2800 | 3   | 7 | 24 | 47 |    |                  |
| 2151                   | 3   | 6 | 8  | 48 |    |                  | 2530 | 3   | 6 | 59 | 47 |    |                  | 2805 | 3   | 7 | 25 | 2  |    |                  |
| 2152                   | 3   | 6 | 9  | 59 |    |                  | 2535 | 3   | 7 | 0  | 27 |    |                  | 2810 | 3   | 7 | 25 | 17 |    |                  |
| 2153                   | 3   | 6 | 11 | 10 |    |                  | 2540 | 3   | 7 | 1  | 6  |    |                  | 2815 | 3   | 7 | 25 | 32 |    |                  |
| 2154                   | 3   | 6 | 12 | 20 |    |                  | 2545 | 3   | 7 | 1  | 45 |    |                  | 2820 | 3   | 7 | 25 | 46 |    |                  |
| 2155                   | 3   | 6 | 13 | 30 |    |                  | 2550 | 3   | 7 | 2  | 23 |    |                  | 2825 | 3   | 7 | 26 | 0  |    |                  |
| 2156                   | 3   | 6 | 14 | 39 | 13 |                  | 2555 | 3   | 7 | 3  | 1  |    |                  | 2830 | 3   | 7 | 26 | 13 |    |                  |
| 2157                   | 3   | 6 | 15 | 47 |    |                  | 2560 | 3   | 7 | 3  | 38 |    | 7                | 2835 | 3   | 7 | 26 | 26 |    |                  |
| 2158                   | 3   | 6 | 16 | 55 |    |                  | 2565 | 3   | 7 | 4  | 15 |    |                  | 2840 | 3   | 7 | 26 | 39 |    |                  |
| 2159                   | 3   | 6 | 18 | 2  |    |                  | 2570 | 3   | 7 | 4  | 51 |    |                  | 2845 | 3   | 7 | 26 | 51 |    |                  |
| 2160                   | 3   | 6 | 19 | 9  |    |                  | 2575 | 3   | 7 | 5  | 27 |    |                  | 2850 | 3   | 7 | 27 | 3  |    |                  |
| 2161                   | 3   | 6 | 20 | 15 |    |                  | 2580 | 3   | 7 | 6  | 2  |    |                  | 2855 | 3   | 7 | 27 | 15 |    |                  |
| 2162                   | 3   | 6 | 21 | 20 |    |                  | 2585 | 3   | 7 | 6  | 37 |    |                  | 2860 | 3   | 7 | 27 | 26 |    |                  |
| 2163                   | 3   | 6 | 22 | 25 |    |                  | 2590 | 3   | 7 | 7  | 11 |    |                  | 2865 | 3   | 7 | 27 | 37 |    |                  |
| 2164                   | 3   | 6 | 23 | 29 | 12 |                  | 2595 | 3   | 7 | 7  | 45 |    |                  | 2870 | 3   | 7 | 27 | 48 |    |                  |
| 2165                   | 3   | 6 | 24 | 32 |    |                  | 2600 | 3   | 7 | 8  | 18 |    | 7                | 2875 | 3   | 7 | 27 | 58 |    |                  |
| 2166                   | 3   | 6 | 25 | 34 |    |                  | 2605 | 3   | 7 | 8  | 51 |    |                  | 2880 | 3   | 7 | 28 | 0  |    |                  |
| 2167                   | 3   | 6 | 26 | 36 |    |                  | 2610 | 3   | 7 | 9  | 24 |    |                  | 2885 | 3   | 7 | 28 | 10 |    |                  |
| 2168                   | 3   | 6 | 27 | 37 |    |                  | 2615 | 3   | 7 | 9  | 56 |    |                  | 2890 | 3   | 7 | 28 | 27 |    |                  |
| 2169                   | 3   | 6 | 28 | 37 |    |                  | 2620 | 3   | 7 | 10 | 28 |    |                  | 2895 | 3   | 7 | 28 | 36 |    |                  |
| 2170                   | 3   | 6 | 29 | 37 |    |                  | 2625 | 3   | 7 | 10 | 59 |    |                  | 2900 | 3   | 7 | 28 | 45 |    |                  |
| 2171                   | 3   | 6 | 30 | 36 |    |                  | 2630 | 3   | 7 | 11 | 30 |    |                  | 2905 | 3   | 7 | 28 | 53 |    |                  |
| 2172                   | 3   | 6 | 31 | 35 | 11 |                  | 2635 | 3   | 7 | 11 | 1  |    |                  | 2910 | 3   | 7 | 29 | 1  |    |                  |
| 2173                   | 3   | 6 | 32 | 34 |    |                  | 2640 | 3   | 7 | 12 | 31 |    | 6                | 2915 | 3   | 7 | 29 | 9  |    |                  |
| 2174                   | 3   | 6 | 33 | 32 |    |                  | 2645 | 3   | 7 | 12 | 1  |    |                  | 2920 | 3   | 7 | 29 | 16 |    |                  |
| 2175                   | 3   | 6 | 34 | 30 |    |                  | 2650 | 3   | 7 | 13 | 30 |    |                  | 2925 | 3   | 7 | 29 | 23 |    |                  |
| 2176                   | 3   | 6 | 35 | 27 |    |                  | 2655 | 3   | 7 | 13 | 59 |    |                  | 2930 | 3   | 7 | 29 | 30 |    |                  |
| 2177                   | 3   | 6 | 36 | 23 |    |                  | 2660 | 3   | 7 | 14 | 28 |    |                  | 2935 | 3   | 7 | 29 | 36 |    |                  |
| 2178                   | 3   | 6 | 37 | 19 |    |                  | 2665 | 3   | 7 | 14 | 56 |    |                  | 2940 | 3   | 7 | 29 | 42 |    |                  |
| 2179                   | 3   | 6 | 38 | 14 |    |                  | 2670 | 3   | 7 | 15 | 24 |    |                  | 2945 | 3   | 7 | 29 | 47 |    |                  |
| 2180                   | 3   | 6 | 39 | 9  | 10 |                  | 2675 | 3   | 7 | 15 | 51 |    |                  | 2950 | 3   | 7 | 29 | 52 |    |                  |
| 2181                   | 3   | 6 | 40 | 3  |    |                  | 2680 | 3   | 7 | 16 | 18 |    | 5                | 2955 | 3   | 7 | 29 | 57 |    |                  |
| 2182                   | 3   | 6 | 40 | 57 |    |                  | 2685 | 3   | 7 | 16 | 44 |    |                  | 2960 | 3   | 7 | 30 | 1  |    |                  |
| 2183                   | 3   | 6 | 41 | 50 |    |                  | 2690 | 3   | 7 | 17 | 10 |    |                  | 2965 | 3   | 7 | 30 | 5  |    |                  |
| 2184                   | 3   | 6 | 42 | 43 |    |                  | 2695 | 3   | 7 | 17 | 35 |    |                  | 2970 | 3   | 7 | 30 | 9  |    |                  |
| 2185                   | 3   | 6 | 43 | 35 |    |                  | 2700 | 3   | 7 | 18 | 0  |    |                  | 2975 | 3   | 7 | 30 | 13 |    |                  |
| 2186                   | 3   | 6 | 44 | 27 |    |                  | 2705 | 3   | 7 | 18 | 24 |    |                  | 2980 | 3   | 7 | 30 | 16 |    |                  |
| 2187                   | 3   | 6 | 45 | 18 |    |                  | 2710 | 3   | 7 | 18 | 48 |    |                  | 2985 | 3   | 7 | 30 | 19 |    |                  |
| 2188                   | 3   | 6 | 46 | 8  | 9  |                  | 2715 | 3   | 7 | 19 | 11 |    |                  | 2990 | 3   | 7 | 30 | 22 |    |                  |
| 2189                   | 3   | 6 | 46 | 58 |    |                  | 2720 | 3   | 7 | 19 | 34 |    | 5                | 2995 | 3   | 7 | 30 | 24 |    |                  |
| 2190                   | 3   | 6 | 47 | 48 |    |                  | 2725 | 3   | 7 | 19 | 57 |    |                  | 3000 | 3   | 7 | 30 | 26 |    | 0                |
| 2191                   | 3   | 6 | 48 | 37 |    |                  | 2730 | 3   | 7 | 20 | 19 |    |                  | 3005 | 3   | 7 | 30 | 27 |    |                  |
| 2192                   | 3   | 6 | 49 | 26 |    |                  | 2735 | 3   | 7 | 20 | 41 |    |                  | 3010 | 3   | 7 | 30 | 28 |    |                  |
| 2193                   | 3   | 6 | 50 | 14 |    |                  | 2740 | 3   | 7 | 21 | 3  |    |                  | 3015 | 3   | 7 | 30 | 28 |    |                  |
| 2194                   | 3   | 6 | 51 | 1  |    |                  | 2745 | 3   | 7 | 21 | 24 |    |                  | 3020 | 3   | 7 | 30 | 29 |    |                  |
| 2195                   | 3   | 6 | 51 | 50 |    |                  | 2750 | 3   | 7 | 21 | 45 |    |                  | 3025 | 3   | 7 | 30 | 29 |    |                  |
| 2196                   | 3   | 6 | 52 | 37 | 9  |                  | 2755 | 3   | 7 | 22 | 5  |    |                  | 3030 | 3   | 7 | 30 | 30 |    |                  |
| 2197                   | 3   | 6 | 53 | 23 |    |                  | 2760 | 3   | 7 | 22 | 25 |    | 4                | 3035 | 3   | 7 | 30 | 30 |    |                  |
| 2198                   | 3   | 6 | 54 | 8  |    |                  | 2765 | 3   | 7 | 22 | 45 |    |                  | 3040 | 3   | 7 | 30 | 30 |    | 0                |
| 2199                   | 3   | 6 | 54 | 51 |    |                  | 2770 | 3   | 7 | 23 | 4  |    |                  | 0    | 0   | 0 | 0  | 0  |    |                  |

# Tabula distantie Meri Coniunctionis

Signa



Argumenti Solis



| ⑤   |   |  |   |    |   |    |    |    |    |    |    |    |    |    |    |    |     |
|-----|---|--|---|----|---|----|----|----|----|----|----|----|----|----|----|----|-----|
| Sta | 0 | 2  | 4 | 6  | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | dis |
| 0   | 0 | 0  | 0 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 1   | 0 | 11   | 0 | 9  | 0 | 19 | 0  | 28 | 0  | 37 | 0  | 47 | 0  | 57 | 1  | 7  | 16  |
| 2   | 0 | 11   | 0 | 2  | 0 | 18 | 0  | 17 | 0  | 26 | 0  | 36 | 0  | 46 | 0  | 56 | 1   |
| 3   | 0 | 21   | 0 | 12 | 0 | 42 | 0  | 7  | 0  | 16 | 0  | 26 | 0  | 36 | 0  | 46 | 0   |
| 4   | 0 | 1  | 0 | 12 | 0 | 23 | 0  | 13 | 0  | 4  | 0  | 15 | 0  | 25 | 0  | 35 | 0   |
| 5   | 0 | 4  | 0 | 42 | 0 | 33 | 0  | 24 | 0  | 5  | 0  | 25 | 0  | 35 | 0  | 45 | 0   |
| 6   | 0 | 5  | 0 | 53 | 0 | 44 | 0  | 35 | 0  | 16 | 0  | 6  | 0  | 24 | 0  | 14 | 0   |
| 7   | 0 | 7  | 0 | 1  | 0 | 35 | 0  | 26 | 0  | 16 | 0  | 6  | 0  | 24 | 0  | 14 | 0   |
| 8   | 0 | 8  | 0 | 14 | 1 | 5  | 0  | 55 | 0  | 46 | 0  | 37 | 0  | 27 | 0  | 17 | 0   |
| 9   | 0 | 9  | 0 | 14 | 1 | 5  | 0  | 55 | 0  | 46 | 0  | 37 | 0  | 27 | 0  | 17 | 0   |
| 10  | 0 | 10   | 0 | 15 | 1 | 6  | 0  | 57 | 0  | 47 | 0  | 38 | 0  | 28 | 0  | 18 | 0   |
| 11  | 0 | 11   | 0 | 15 | 1 | 6  | 0  | 57 | 0  | 47 | 0  | 38 | 0  | 28 | 0  | 18 | 0   |
| 12  | 0 | 12 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 13  | 0 | 13 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 14  | 0 | 14 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 15  | 0 | 15 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 16  | 0 | 16 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 17  | 0 | 17 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 18  | 0 | 18 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
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| 22  | 0 | 22 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 23  | 0 | 23 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 24  | 0 | 24 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 25  | 0 | 25 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 26  | 0 | 26 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
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| 28  | 0 | 28 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 29  | 0 | 29 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 30  | 0 | 30 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 31  | 0 | 31 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
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| 34  | 0 | 34 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 35  | 0 | 35 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 36  | 0 | 36 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 37  | 0 | 37 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 38  | 0 | 38 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 39  | 0 | 39 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 40  | 0 | 40 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 41  | 0 | 41 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 42  | 0 | 42 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 43  | 0 | 43 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 44  | 0 | 44 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 45  | 0 | 45 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 46  | 0 | 46 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 47  | 0 | 47 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 48  | 0 | 48 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 49  | 0 | 49 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 50  | 0 | 50 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 51  | 0 | 51 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 52  | 0 | 52 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 53  | 0 | 53 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 54  | 0 | 54 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 55  | 0 | 55 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 56  | 0 | 56 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 57  | 0 | 57 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 58  | 0 | 58 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 59  | 0 | 59 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 60  | 0 | 60 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 61  | 0 | 61 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 62  | 0 | 62 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 63  | 0 | 63 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 64  | 0 | 64 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 65  | 0 | 65 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 66  | 0 | 66 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 67  | 0 | 67 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 68  | 0 | 68 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 69  | 0 | 69 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 70  | 0 | 70 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 71  | 0 | 71 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 72  | 0 | 72 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 73  | 0 | 73 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 74  | 0 | 74 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 75  | 0 | 75 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 76  | 0 | 76 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 77  | 0 | 77 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 78  | 0 | 78 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 79  | 0 | 79 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 80  | 0 | 80 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 81  | 0 | 81 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 82  | 0 | 82 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 83  | 0 | 83 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 84  | 0 | 84 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 85  | 0 | 85 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 86  | 0 | 86 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 87  | 0 | 87 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 88  | 0 | 88 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 89  | 0 | 89 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 90  | 0 | 90 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 91  | 0 | 91 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 92  | 0 | 92 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 93  | 0 | 93 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 94  | 0 | 94 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 95  | 0 | 95 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <td>0</td> <td>58</td> <td>0</td> <td>48</td> <td>0</td> <td>39</td> <td>0</td> <td>29</td> <td>0</td> <td>19</td> <td>0</td> | 0 | 2  | 5 | 1  | 0  | 58 | 0  | 48 | 0  | 39 | 0  | 29 | 0  | 19 | 0   |
| 96  | 0 | 96 <td>0</td> <td>2</td> <td>5</td> <td>1</td> <   | 0 | 2  | 5 | 1  |    |    |    |    |    |    |    |    |    |    |     |



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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99  | 100 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99  | 100 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99  | 100 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99  | 100 |
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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 999 |     |

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| 23  | 5 41 | 5 33 | 5 26 | 5 18 | 5 10 | 5 2  | 4 55 | 4 47 | 4 39 | 4 32 | 4 25 | 4 18 | 4 11 | 4 4  | 3 50 | 3 43 | 7 7  |
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| 25  | 5 25 | 5 17 | 5 10 | 5 2  | 4 54 | 4 46 | 4 39 | 4 31 | 4 23 | 4 16 | 4 8  | 4 1  | 3 54 | 3 47 | 3 40 | 3 33 | 7 5  |
| 26  | 5 17 | 5 9  | 5 2  | 4 54 | 4 46 | 4 38 | 4 31 | 4 23 | 4 15 | 4 8  | 4 1  | 3 53 | 3 46 | 3 39 | 3 32 | 3 25 | 7 4  |
| 27  | 5 9  | 5 1  | 4 52 | 4 45 | 4 37 | 4 29 | 4 22 | 4 14 | 4 6  | 4 5  | 3 51 | 3 44 | 3 37 | 3 30 | 3 23 | 3 16 | 7 3  |
| 28  | 5 2  | 4 54 | 4 46 | 4 38 | 4 29 | 4 21 | 4 14 | 4 6  | 3 58 | 3 50 | 3 43 | 3 36 | 3 29 | 3 22 | 3 15 | 3 8  | 7 2  |
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| 9   | 3 22 | 3 15 | 3 7  | 3 0  | 2 52 | 2 44 | 2 37 | 2 29 | 2 22 | 2 15 | 2 7  | 2 0  | 1 53 | 1 46 | 1 39 | 1 32 | 6 51 |
| 10  | 3 13 | 3 6  | 2 58 | 2 51 | 2 43 | 2 35 | 2 28 | 2 20 | 2 13 | 2 6  | 1 58 | 1 51 | 1 44 | 1 37 | 1 30 | 1 23 | 6 50 |
| 11  | 3 4  | 2 57 | 2 49 | 2 42 | 2 34 | 2 26 | 2 19 | 2 11 | 2 4  | 1 57 | 1 49 | 1 42 | 1 35 | 1 28 | 1 21 | 1 14 | 6 49 |
| 12  | 2 54 | 2 47 | 2 39 | 2 32 | 2 24 | 2 16 | 2 9  | 2 1  | 1 54 | 1 47 | 1 39 | 1 32 | 1 25 | 1 18 | 1 11 | 1 4  | 6 48 |
| 13  | 2 45 | 2 38 | 2 30 | 2 23 | 2 15 | 2 7  | 2 0  | 1 52 | 1 45 | 1 38 | 1 30 | 1 23 | 1 16 | 1 9  | 1 2  | 0 55 | 6 47 |
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| 19  | 1 48 | 1 40 | 1 32 | 1 25 | 1 18 | 1 10 | 1 2  | 0 54 | 0 47 | 0 40 | 0 32 | 0 25 | 0 18 | 0 11 | 0 4  | 0 1  | 6 41 |
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| 24  | 0 50 | 0 42 | 0 34 | 0 27 | 0 19 | 0 11 | 0 4  | 0 6  | 0 1  | 0 1  | 0 1  | 0 16 | 0 23 | 0 30 | 0 37 | 0 44 | 6 36 |
| 25  | 0 40 | 0 32 | 0 24 | 0 17 | 0 9  | 0 1  | 0 1  | 0 14 | 0 1  | 0 1  | 0 1  | 0 16 | 0 23 | 0 30 | 0 37 | 0 44 | 6 35 |
| 26  | 0 30 | 0 22 | 0 15 | 0 8  | 0 0  | 0 1  | 0 1  | 0 14 | 0 21 | 0 28 | 0 36 | 0 43 | 0 50 | 0 57 | 1 4  | 1 10 | 6 34 |
| 27  | 0 20 | 0 13 | 0 5  | 0 1  | 0 18 | 0 25 | 0 33 | 0 40 | 0 47 | 0 55 | 1 2  | 1 9  | 1 16 | 1 23 | 1 30 | 1 37 | 6 33 |
| 28  | 0 10 | 0 3  | 0 15 | 0 12 | 0 20 | 0 28 | 0 35 | 0 43 | 0 50 | 0 57 | 1 5  | 1 12 | 1 19 | 1 26 | 1 33 | 1 40 | 6 32 |
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184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071 | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088 | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 | 1129 | 1130 | 1131 | 1132 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 | 1139 | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 | 1153 | 1154 | 1155 | 1156 | 1157 | 1158 | 1159 | 1160 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 | 1167 | 1168 | 1169 | 1170 | 1171 | 1172 | 1173 | 1174 | 1175 | 1176 | 1177 | 1178 | 1179 | 1180 | 1181 | 1182 | 1183 | 1184 | 1185 | 1186 | 1187 | 1188 | 1189 | 1190 | 1191 | 1192 | 1193 | 1194 | 1195 | 1196 | 1197 | 1198 | 1199 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 | 1226 | 1227 | 1228 | 1229 | 1230 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 | 1237 | 1238 | 1239 | 1240 | 1241 | 1242 | 1243 | 1244 | 1245 | 1246 | 1247 | 1248 | 1249 | 1250 | 1251 | 1252 | 1253 | 1254 | 1255 | 1256 | 1257 | 1258 | 1259 | 1260 | 1261 | 1262 | 1263 | 1264 | 1265 | 1266 | 1267 | 1268 | 1269 | 1270 | 1271 | 1272 | 1273 | 1274 | 1275 | 1276 | 1277 | 1278 | 1279 | 1280 | 1281 | 1282 | 1283 | 1284 | 1285 | 1286 | 1287 | 1288 | 1289 | 1290 | 1291 | 1292 | 1293 | 1294 | 1295 | 1296 | 1297 | 1298 | 1299 | 1300 | 1301 | 1302 | 1303 | 1304 | 1305 | 1306 | 1307 | 1308 | 1309 | 1310 | 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 | 1321 | 1322 | 1323 | 1324 | 1325 | 1326 | 1327 | 1328 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339 | 1340 | 1341 | 1342 | 1343 | 1344 | 1345 | 1346 | 1347 | 1348 | 1349 | 1350 | 1351 | 1352 | 1353 | 1354 | 1355 | 1356 | 1357 | 1358 | 1359 | 1360 | 1361 | 1362 | 1363 | 1364 | 1365 | 1366 | 1367 | 1368 | 1369 | 1370 | 1371 | 1372 | 1373 | 1374 | 1375 | 1376 | 1377 | 1378 | 1379 | 1380 | 1381 | 1382 | 1383 | 1384 | 1385 | 1386 | 1387 | 1388 | 1389 | 1390 | 1391 | 1392 | 1393 | 1394 | 1395 | 1396 | 1397 | 1398 | 1399 | 1400 | 1401 | 1402 | 1403 | 1404 | 1405 | 1406 | 1407 | 1408 | 1409 | 1410 | 1411 | 1412 | 1413 | 1414 | 1415 | 1416 | 1417 | 1418 | 1419 | 1420 | 1421 | 1422 | 1423 | 1424 | 1425 | 1426 | 1427 | 1428 | 1429 | 1430 | 1431 | 1432 | 1433 | 1434 | 1435 | 1436 | 1437 | 1438 | 1439 | 1440 | 1441 | 1442 | 1443 | 1444 | 1445 | 1446 | 1447 | 1448 | 1449 | 1450 | 1451 | 1452 | 1453 | 1454 | 1455 | 1456 | 1457 | 1458 | 1459 | 1460 | 1461 | 1462 | 1463 | 1464 | 1465 | 1466 | 1467 | 1468 | 1469 | 1470 | 1471 | 1472 | 1473 | 1474 | 1475 | 1476 | 1477 | 1478 | 1479 | 1480 | 1481 | 1482 | 1483 | 1484 | 1485 | 1486 | 1487 | 1488 | 1489 | 1490 | 1491 | 1492 | 1493 | 1494 | 1495 | 1496 | 1497 | 1498 |
|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----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### Argumenti Solus

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| 15  | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24   | 25   | 26   | 27   | 28   | 29   | 30   | 31   | 1     |
| 15  | 4 46 | 4 38 | 4 30 | 4 22 | 4 15 | 4 8  | 4 0  | 3 53 | 3 46 | 3 39 | 3 32 | 3 27 | 3 21 | 3 15 | 3 9  | 3 4  | 10 15 |
| 16  | 4 54 | 4 46 | 4 38 | 4 30 | 4 22 | 4 15 | 4 8  | 4 1  | 3 54 | 3 47 | 3 41 | 3 35 | 3 28 | 3 21 | 3 17 | 3 11 | 10 14 |
| 17  | 5 1  | 4 53 | 4 45 | 4 37 | 4 29 | 4 22 | 4 15 | 4 8  | 4 1  | 3 55 | 3 48 | 3 42 | 3 36 | 3 30 | 3 24 | 3 19 | 10 13 |
| 18  | 5 8  | 5 0  | 4 52 | 4 44 | 4 36 | 4 29 | 4 22 | 4 15 | 4 8  | 4 2  | 3 55 | 3 49 | 3 43 | 3 37 | 3 31 | 3 26 | 10 12 |
| 19  | 5 15 | 5 7  | 4 59 | 4 51 | 4 43 | 4 36 | 4 29 | 4 22 | 4 15 | 4 9  | 4 2  | 3 56 | 3 50 | 3 44 | 3 38 | 3 33 | 10 11 |
| 20  | 5 22 | 5 11 | 5 0  | 4 52 | 4 44 | 4 37 | 4 30 | 4 23 | 4 16 | 4 10 | 4 4  | 3 56 | 3 50 | 3 45 | 3 40 | 3 35 | 10 10 |
| 21  | 5 29 | 5 20 | 5 12 | 5 4  | 4 56 | 4 49 | 4 42 | 4 35 | 4 28 | 4 22 | 4 15 | 4 9  | 4 3  | 3 57 | 3 51 | 3 46 | 10 9  |
| 22  | 5 35 | 5 26 | 5 18 | 5 10 | 5 2  | 4 55 | 4 48 | 4 41 | 4 34 | 4 28 | 4 21 | 4 15 | 4 9  | 4 3  | 3 58 | 3 52 | 10 8  |
| 23  | 5 41 | 5 31 | 5 25 | 5 17 | 5 9  | 5 2  | 4 55 | 4 48 | 4 41 | 4 35 | 4 28 | 4 22 | 4 16 | 4 10 | 4 5  | 4 0  | 10 7  |
| 24  | 5 47 | 5 39 | 5 31 | 5 23 | 5 15 | 5 8  | 5 1  | 4 54 | 4 47 | 4 41 | 4 34 | 4 28 | 4 22 | 4 16 | 4 11 | 4 6  | 10 6  |
| 25  | 5 53 | 5 45 | 5 37 | 5 29 | 5 21 | 5 14 | 5 7  | 5 0  | 4 53 | 4 47 | 4 40 | 4 34 | 4 28 | 4 22 | 4 17 | 4 12 | 10 5  |
| 26  | 5 59 | 5 51 | 5 43 | 5 35 | 5 27 | 5 20 | 5 13 | 5 6  | 4 59 | 4 53 | 4 46 | 4 40 | 4 34 | 4 28 | 4 23 | 4 18 | 10 4  |
| 27  | 6 5  | 5 56 | 5 48 | 5 41 | 5 33 | 5 26 | 5 19 | 5 12 | 5 5  | 4 59 | 4 53 | 4 46 | 4 40 | 4 34 | 4 29 | 4 24 | 10 3  |
| 28  | 6 11 | 6 2  | 5 54 | 5 47 | 5 39 | 5 32 | 5 25 | 5 18 | 5 11 | 5 5  | 4 58 | 4 52 | 4 46 | 4 40 | 4 35 | 4 30 | 10 2  |
| 29  | 6 16 | 6 8  | 6 0  | 5 53 | 5 45 | 5 38 | 5 31 | 5 24 | 5 17 | 5 11 | 5 4  | 4 58 | 4 52 | 4 46 | 4 41 | 4 36 | 10 1  |
| 30  | 6 21 | 6 11 | 6 3  | 5 56 | 5 50 | 5 43 | 5 36 | 5 29 | 5 22 | 5 16 | 5 9  | 5 3  | 4 57 | 4 51 | 4 46 | 4 41 | 10 0  |
| 31  | 6 26 | 6 18 | 6 10 | 6 3  | 5 55 | 5 48 | 5 41 | 5 34 | 5 27 | 5 21 | 5 14 | 5 8  | 4 56 | 4 50 | 4 45 | 4 40 | 9 59  |
| 1   | 6 31 | 6 21 | 6 15 | 6 8  | 6 0  | 5 53 | 5 46 | 5 39 | 5 32 | 5 26 | 5 19 | 5 13 | 5 7  | 5 1  | 4 56 | 4 51 | 9 58  |
| 2   | 6 36 | 6 27 | 6 19 | 6 12 | 6 4  | 5 57 | 5 50 | 5 43 | 5 36 | 5 30 | 5 24 | 5 18 | 5 12 | 5 6  | 5 1  | 4 56 | 9 57  |
| 3   | 6 41 | 6 32 | 6 24 | 6 17 | 6 9  | 6 2  | 5 55 | 5 48 | 5 41 | 5 35 | 5 29 | 5 23 | 5 17 | 5 11 | 5 6  | 5 1  | 9 56  |
| 4   | 6 45 | 6 37 | 6 29 | 6 22 | 6 14 | 6 7  | 6 0  | 5 53 | 5 46 | 5 40 | 5 34 | 5 28 | 5 22 | 5 16 | 5 11 | 5 6  | 9 55  |
| 5   | 6 49 | 6 41 | 6 33 | 6 26 | 6 18 | 6 11 | 6 4  | 5 57 | 5 50 | 5 44 | 5 38 | 5 32 | 5 26 | 5 20 | 5 15 | 5 10 | 9 54  |
| 6   | 6 54 | 6 45 | 6 37 | 6 30 | 6 22 | 6 15 | 6 8  | 6 1  | 5 54 | 5 48 | 5 42 | 5 36 | 5 30 | 5 24 | 5 19 | 5 14 | 9 53  |
| 7   | 6 59 | 6 49 | 6 41 | 6 34 | 6 26 | 6 19 | 6 12 | 6 5  | 5 58 | 5 52 | 5 46 | 5 40 | 5 34 | 5 28 | 5 23 | 5 18 | 9 52  |
| 8   | 7 1  | 6 51 | 6 44 | 6 37 | 6 30 | 6 23 | 6 16 | 6 9  | 6 2  | 5 56 | 5 50 | 5 44 | 5 38 | 5 32 | 5 27 | 5 22 | 9 51  |
| 9   | 7 4  | 6 55 | 6 48 | 6 41 | 6 34 | 6 27 | 6 20 | 6 13 | 6 6  | 6 0  | 5 54 | 5 48 | 5 42 | 5 36 | 5 31 | 5 26 | 9 50  |
| 10  | 7 7  | 6 59 | 6 52 | 6 45 | 6 38 | 6 31 | 6 24 | 6 17 | 6 10 | 6 4  | 5 58 | 5 52 | 5 46 | 5 40 | 5 35 | 5 30 | 9 49  |
| 11  | 7 10 | 7 2  | 6 55 | 6 48 | 6 41 | 6 34 | 6 27 | 6 20 | 6 13 | 6 7  | 6 1  | 5 55 | 5 49 | 5 43 | 5 38 | 5 33 | 9 48  |
| 12  | 7 13 | 7 5  | 6 58 | 6 51 | 6 44 | 6 37 | 6 30 | 6 23 | 6 16 | 6 10 | 6 4  | 5 58 | 5 52 | 5 46 | 5 41 | 5 36 | 9 47  |
| 13  | 7 16 | 7 8  | 7 1  | 6 54 | 6 47 | 6 40 | 6 33 | 6 26 | 6 19 | 6 13 | 6 7  | 6 1  | 5 55 | 5 49 | 5 44 | 5 39 | 9 46  |
| 14  | 7 19 | 7 10 | 7 3  | 6 56 | 6 49 | 6 42 | 6 35 | 6 28 | 6 21 | 6 16 | 6 10 | 6 4  | 5 58 | 5 52 | 5 47 | 5 42 | 9 45  |
| 15  | 7 22 | 7 11 | 7 6  | 6 59 | 6 52 | 6 45 | 6 38 | 6 31 | 6 25 | 6 19 | 6 13 | 6 7  | 6 1  | 5 55 | 5 50 | 5 46 | 9 44  |
| 16  | 7 24 | 7 16 | 7 9  | 7 2  | 6 55 | 6 48 | 6 41 | 6 34 | 6 28 | 6 22 | 6 16 | 6 10 | 6 4  | 5 58 | 5 53 | 5 48 | 9 43  |
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| 19  | 7 30 | 7 21 | 7 14 | 7 7  | 7 0  | 6 53 | 6 47 | 6 40 | 6 34 | 6 28 | 6 22 | 6 16 | 6 10 | 6 4  | 5 59 | 5 54 | 9 40  |
| 20  | 7 32 | 7 22 | 7 16 | 7 9  | 7 2  | 6 55 | 6 48 | 6 41 | 6 35 | 6 29 | 6 23 | 6 17 | 6 11 | 6 5  | 6 0  | 5 55 | 9 39  |
| 21  | 7 33 | 7 23 | 7 17 | 7 10 | 7 3  | 6 56 | 6 50 | 6 44 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 7  | 6 2  | 5 57 | 9 38  |
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| 23  | 7 35 | 7 25 | 7 20 | 7 13 | 7 6  | 6 59 | 6 53 | 6 46 | 6 40 | 6 34 | 6 28 | 6 22 | 6 16 | 6 10 | 6 5  | 6 0  | 9 36  |
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| 1   | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 27  |
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| 3   | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 25  |
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| 11  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 17  |
| 12  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 16  |
| 13  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 15  |
| 14  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 14  |
| 15  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 13  |
| 16  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 12  |
| 17  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 11  |
| 18  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 10  |
| 19  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 9   |
| 20  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 8   |
| 21  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 7   |
| 22  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 6   |
| 23  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 5   |
| 24  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 4   |
| 25  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6 49 | 6 43 | 6 37 | 6 31 | 6 25 | 6 19 | 6 13 | 6 8  | 6 3  | 9 3   |
| 26  | 7 39 | 7 30 | 7 23 | 7 16 | 7 9  | 7 2  | 6 56 | 6    |      |      |      |      |      |      |      |      |       |

### Tabula distantie Uere Coniunctionis

### Signa

1

### Argumenti Solus

[illegible]

10

Signa



# aut Oppositionis a Media.

Signa

1

Argumenti Solis

| Signa  | 0    | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | das  |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Gradus | 0    | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | das  |
| 4 15   | 4 48 | 4 41 | 4 34 | 4 28 | 4 22 | 4 16 | 4 10 | 4 4  | 3 58 | 3 52 | 3 46 | 3 41 | 3 36 | 3 31 | 3 26 | 3 22 | 7 15 |
| 4 16   | 4 41 | 4 34 | 4 27 | 4 21 | 4 15 | 4 9  | 4 3  | 3 57 | 3 51 | 3 45 | 3 39 | 3 34 | 3 29 | 3 24 | 3 19 | 3 15 | 7 14 |
| 4 17   | 4 34 | 4 27 | 4 20 | 4 14 | 4 8  | 4 2  | 3 56 | 3 50 | 3 44 | 3 38 | 3 32 | 3 27 | 3 22 | 3 17 | 3 12 | 3 8  | 7 13 |
| 4 18   | 4 27 | 4 20 | 4 13 | 4 7  | 4 1  | 3 55 | 3 49 | 3 43 | 3 37 | 3 31 | 3 25 | 3 20 | 3 15 | 3 10 | 3 5  | 3 1  | 7 12 |
| 4 19   | 4 20 | 4 13 | 4 6  | 4 0  | 3 54 | 3 48 | 3 42 | 3 36 | 3 30 | 3 24 | 3 18 | 3 13 | 3 8  | 3 3  | 2 58 | 2 54 | 7 11 |
| 4 20   | 4 12 | 4 5  | 3 58 | 3 52 | 3 46 | 3 40 | 3 34 | 3 28 | 3 22 | 3 16 | 3 10 | 3 5  | 0    | 2 55 | 2 50 | 2 45 | 7 10 |
| 4 21   | 4 5  | 3 57 | 3 50 | 3 44 | 3 38 | 3 32 | 3 26 | 3 20 | 3 14 | 3 8  | 3 2  | 2 57 | 2 52 | 2 47 | 2 42 | 2 38 | 7 9  |
| 4 22   | 3 57 | 3 50 | 3 43 | 3 37 | 3 31 | 3 25 | 3 19 | 3 13 | 3 7  | 3 1  | 2 55 | 2 50 | 2 45 | 2 40 | 2 35 | 2 31 | 7 8  |
| 4 23   | 3 49 | 3 42 | 3 35 | 3 29 | 3 23 | 3 17 | 3 11 | 3 5  | 2 59 | 2 53 | 2 47 | 2 42 | 2 37 | 2 32 | 2 27 | 2 23 | 7 7  |
| 4 24   | 3 41 | 3 34 | 3 27 | 3 21 | 3 15 | 3 9  | 3 3  | 2 57 | 2 51 | 2 45 | 2 39 | 2 34 | 2 29 | 2 24 | 2 19 | 2 15 | 7 6  |
| 4 25   | 3 33 | 3 26 | 3 19 | 3 13 | 3 7  | 3 1  | 2 55 | 2 49 | 2 43 | 2 37 | 2 31 | 2 26 | 2 21 | 2 16 | 2 11 | 2 7  | 7 5  |
| 4 26   | 3 25 | 3 18 | 3 11 | 3 5  | 2 59 | 2 53 | 2 47 | 2 41 | 2 35 | 2 29 | 2 23 | 2 18 | 2 13 | 2 8  | 3 3  | 1 59 | 7 4  |
| 4 27   | 3 16 | 3 9  | 3 2  | 2 57 | 2 51 | 2 45 | 2 39 | 2 33 | 2 27 | 2 21 | 2 15 | 2 10 | 2 5  | 2 0  | 1 55 | 1 51 | 7 3  |
| 4 28   | 3 8  | 3 1  | 2 55 | 2 49 | 2 43 | 2 37 | 2 31 | 2 25 | 2 19 | 2 13 | 2 7  | 2 2  | 1 57 | 1 52 | 1 47 | 1 43 | 7 2  |
| 4 29   | 3 0  | 2 53 | 2 47 | 2 41 | 2 35 | 2 29 | 2 23 | 2 17 | 2 11 | 2 5  | 1 59 | 1 54 | 1 49 | 1 44 | 1 39 | 1 35 | 7 1  |
| 5 0    | 2 51 | 2 44 | 2 38 | 2 32 | 2 26 | 2 20 | 2 14 | 2 8  | 2 2  | 1 56 | 1 51 | 1 45 | 1 40 | 1 35 | 1 30 | 1 26 | 7 0  |
| 5 1    | 2 43 | 2 36 | 2 30 | 2 24 | 2 18 | 2 12 | 2 6  | 2 0  | 1 54 | 1 48 | 1 42 | 1 37 | 1 32 | 1 27 | 1 22 | 1 18 | 6 59 |
| 5 2    | 2 34 | 2 27 | 2 21 | 2 15 | 2 9  | 2 3  | 1 57 | 1 51 | 1 45 | 1 39 | 1 33 | 1 28 | 1 23 | 1 18 | 1 13 | 1 9  | 6 28 |
| 5 3    | 2 25 | 2 18 | 2 12 | 2 6  | 2 0  | 1 54 | 1 48 | 1 42 | 1 36 | 1 30 | 1 24 | 1 19 | 1 14 | 1 10 | 1 5  | 1 0  | 6 27 |
| 5 4    | 2 17 | 2 10 | 2 4  | 1 57 | 1 51 | 1 45 | 1 39 | 1 33 | 1 27 | 1 22 | 1 16 | 1 11 | 1 6  | 1 1  | 0 56 | 0 52 | 6 26 |
| 5 5    | 2 8  | 2 1  | 1 54 | 1 48 | 1 42 | 1 36 | 1 30 | 1 24 | 1 18 | 1 13 | 1 7  | 2 0  | 57   | 51   | 46   | 41   | 6 25 |
| 5 6    | 1 59 | 1 52 | 1 45 | 1 39 | 1 33 | 1 27 | 1 21 | 1 15 | 1 9  | 1 4  | 0 58 | 0 53 | 0 48 | 0 44 | 0 39 | 0 34 | 6 24 |
| 5 7    | 1 50 | 1 43 | 1 36 | 1 30 | 1 24 | 1 18 | 1 12 | 1 6  | 1 0  | 0 55 | 0 49 | 0 45 | 0 39 | 0 35 | 0 30 | 0 25 | 6 23 |
| 5 8    | 1 41 | 1 34 | 1 27 | 1 21 | 1 15 | 1 9  | 1 3  | 0 57 | 0 51 | 0 46 | 0 40 | 0 36 | 0 30 | 0 26 | 0 21 | 0 16 | 6 22 |
| 5 9    | 1 32 | 1 25 | 1 18 | 1 12 | 1 6  | 1 0  | 0 54 | 0 48 | 0 42 | 0 37 | 0 31 | 0 27 | 0 21 | 0 17 | 0 12 | 0 7  | 6 21 |
| 5 10   | 1 23 | 1 16 | 1 9  | 1 3  | 0 57 | 0 51 | 0 45 | 0 39 | 0 34 | 0 28 | 0 22 | 0 19 | 0 12 | 0 8  | 0 3  | 0 0  | 6 20 |
| 5 11   | 1 14 | 1 7  | 1 0  | 0 54 | 0 48 | 0 42 | 0 36 | 0 30 | 0 24 | 0 19 | 0 13 | 0 10 | 0 5  | 0 1  | 0 0  | 0 0  | 6 19 |
| 5 12   | 1 4  | 0 57 | 0 51 | 0 45 | 0 39 | 0 33 | 0 27 | 0 21 | 0 15 | 0 10 | 0 5  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 18 |
| 5 13   | 0 55 | 0 48 | 0 42 | 0 36 | 0 30 | 0 24 | 0 18 | 0 12 | 0 6  | 0 1  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 17 |
| 5 14   | 0 45 | 0 38 | 0 32 | 0 26 | 0 20 | 0 14 | 0 8  | 0 2  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 16 |
| 5 15   | 0 36 | 0 29 | 0 23 | 0 17 | 0 11 | 0 5  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 15 |
| 5 16   | 0 26 | 0 19 | 0 13 | 0 7  | 0 1  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 14 |
| 5 17   | 0 17 | 0 10 | 0 4  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 13 |
| 5 18   | 0 9  | 0 2  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 12 |
| 5 19   | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 11 |
| 5 20   | 0 12 | 0 5  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 10 |
| 5 21   | 0 22 | 0 15 | 0 8  | 0 2  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 9  |
| 5 22   | 0 31 | 0 24 | 0 17 | 0 10 | 0 4  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 8  |
| 5 23   | 0 41 | 0 34 | 0 27 | 0 20 | 0 13 | 0 6  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 7  |
| 5 24   | 0 51 | 0 44 | 0 37 | 0 30 | 0 23 | 0 16 | 0 9  | 0 3  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 6 6  |
| 5 25   | 1 0  | 1 7  | 1 13 | 1 19 | 1 25 | 1 31 | 1 37 | 1 43 | 1 49 | 1 55 | 1 59 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 6 5  |
| 5 26   | 1 10 | 1 17 | 1 23 | 1 29 | 1 35 | 1 41 | 1 47 | 1 53 | 1 59 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 6 4  |
| 5 27   | 1 20 | 1 27 | 1 33 | 1 39 | 1 45 | 1 51 | 1 57 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 6 3  |
| 5 28   | 1 29 | 1 36 | 1 42 | 1 48 | 1 54 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 6 2  |
| 5 29   | 1 39 | 1 46 | 1 52 | 1 58 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 6 1  |
| 6 0    | 1 49 | 1 56 | 2 0  | 2 6  | 2 12 | 2 18 | 2 24 | 2 30 | 2 36 | 2 42 | 2 48 | 2 54 | 3 0  | 3 0  | 3 0  | 3 0  | 6 0  |

Argumenti Solis

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Signa

# Tabula distantie Vire Coniunctionis

Signa

2

Argumenti Solis

| Signa | 0    | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | Signa |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 0     | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17    |
| 1     | 18   | 19   | 20   | 21   | 22   | 23   | 24   | 25   | 26   | 27   | 28   | 29   | 30   | 31   | 32   | 33   | 34    |
| 2     | 35   | 36   | 37   | 38   | 39   | 40   | 41   | 42   | 43   | 44   | 45   | 46   | 47   | 48   | 49   | 50   | 51    |
| 3     | 52   | 53   | 54   | 55   | 56   | 57   | 58   | 59   | 60   | 61   | 62   | 63   | 64   | 65   | 66   | 67   | 68    |
| 4     | 69   | 70   | 71   | 72   | 73   | 74   | 75   | 76   | 77   | 78   | 79   | 80   | 81   | 82   | 83   | 84   | 85    |
| 5     | 86   | 87   | 88   | 89   | 90   | 91   | 92   | 93   | 94   | 95   | 96   | 97   | 98   | 99   | 100  | 101  | 102   |
| 6     | 103  | 104  | 105  | 106  | 107  | 108  | 109  | 110  | 111  | 112  | 113  | 114  | 115  | 116  | 117  | 118  | 119   |
| 7     | 120  | 121  | 122  | 123  | 124  | 125  | 126  | 127  | 128  | 129  | 130  | 131  | 132  | 133  | 134  | 135  | 136   |
| 8     | 137  | 138  | 139  | 140  | 141  | 142  | 143  | 144  | 145  | 146  | 147  | 148  | 149  | 150  | 151  | 152  | 153   |
| 9     | 154  | 155  | 156  | 157  | 158  | 159  | 160  | 161  | 162  | 163  | 164  | 165  | 166  | 167  | 168  | 169  | 170   |
| 10    | 171  | 172  | 173  | 174  | 175  | 176  | 177  | 178  | 179  | 180  | 181  | 182  | 183  | 184  | 185  | 186  | 187   |
| 11    | 188  | 189  | 190  | 191  | 192  | 193  | 194  | 195  | 196  | 197  | 198  | 199  | 200  | 201  | 202  | 203  | 204   |
| 12    | 205  | 206  | 207  | 208  | 209  | 210  | 211  | 212  | 213  | 214  | 215  | 216  | 217  | 218  | 219  | 220  | 221   |
| 13    | 222  | 223  | 224  | 225  | 226  | 227  | 228  | 229  | 230  | 231  | 232  | 233  | 234  | 235  | 236  | 237  | 238   |
| 14    | 239  | 240  | 241  | 242  | 243  | 244  | 245  | 246  | 247  | 248  | 249  | 250  | 251  | 252  | 253  | 254  | 255   |
| 15    | 256  | 257  | 258  | 259  | 260  | 261  | 262  | 263  | 264  | 265  | 266  | 267  | 268  | 269  | 270  | 271  | 272   |
| 16    | 273  | 274  | 275  | 276  | 277  | 278  | 279  | 280  | 281  | 282  | 283  | 284  | 285  | 286  | 287  | 288  | 289   |
| 17    | 290  | 291  | 292  | 293  | 294  | 295  | 296  | 297  | 298  | 299  | 300  | 301  | 302  | 303  | 304  | 305  | 306   |
| 18    | 307  | 308  | 309  | 310  | 311  | 312  | 313  | 314  | 315  | 316  | 317  | 318  | 319  | 320  | 321  | 322  | 323   |
| 19    | 324  | 325  | 326  | 327  | 328  | 329  | 330  | 331  | 332  | 333  | 334  | 335  | 336  | 337  | 338  | 339  | 340   |
| 20    | 341  | 342  | 343  | 344  | 345  | 346  | 347  | 348  | 349  | 350  | 351  | 352  | 353  | 354  | 355  | 356  | 357   |
| 21    | 358  | 359  | 360  | 361  | 362  | 363  | 364  | 365  | 366  | 367  | 368  | 369  | 370  | 371  | 372  | 373  | 374   |
| 22    | 375  | 376  | 377  | 378  | 379  | 380  | 381  | 382  | 383  | 384  | 385  | 386  | 387  | 388  | 389  | 390  | 391   |
| 23    | 392  | 393  | 394  | 395  | 396  | 397  | 398  | 399  | 400  | 401  | 402  | 403  | 404  | 405  | 406  | 407  | 408   |
| 24    | 409  | 410  | 411  | 412  | 413  | 414  | 415  | 416  | 417  | 418  | 419  | 420  | 421  | 422  | 423  | 424  | 425   |
| 25    | 426  | 427  | 428  | 429  | 430  | 431  | 432  | 433  | 434  | 435  | 436  | 437  | 438  | 439  | 440  | 441  | 442   |
| 26    | 443  | 444  | 445  | 446  | 447  | 448  | 449  | 450  | 451  | 452  | 453  | 454  | 455  | 456  | 457  | 458  | 459   |
| 27    | 460  | 461  | 462  | 463  | 464  | 465  | 466  | 467  | 468  | 469  | 470  | 471  | 472  | 473  | 474  | 475  | 476   |
| 28    | 477  | 478  | 479  | 480  | 481  | 482  | 483  | 484  | 485  | 486  | 487  | 488  | 489  | 490  | 491  | 492  | 493   |
| 29    | 494  | 495  | 496  | 497  | 498  | 499  | 500  | 501  | 502  | 503  | 504  | 505  | 506  | 507  | 508  | 509  | 510   |
| 30    | 511  | 512  | 513  | 514  | 515  | 516  | 517  | 518  | 519  | 520  | 521  | 522  | 523  | 524  | 525  | 526  | 527   |
| 31    | 528  | 529  | 530  | 531  | 532  | 533  | 534  | 535  | 536  | 537  | 538  | 539  | 540  | 541  | 542  | 543  | 544   |
| 32    | 545  | 546  | 547  | 548  | 549  | 550  | 551  | 552  | 553  | 554  | 555  | 556  | 557  | 558  | 559  | 560  | 561   |
| 33    | 562  | 563  | 564  | 565  | 566  | 567  | 568  | 569  | 570  | 571  | 572  | 573  | 574  | 575  | 576  | 577  | 578   |
| 34    | 579  | 580  | 581  | 582  | 583  | 584  | 585  | 586  | 587  | 588  | 589  | 590  | 591  | 592  | 593  | 594  | 595   |
| 35    | 596  | 597  | 598  | 599  | 600  | 601  | 602  | 603  | 604  | 605  | 606  | 607  | 608  | 609  | 610  | 611  | 612   |
| 36    | 613  | 614  | 615  | 616  | 617  | 618  | 619  | 620  | 621  | 622  | 623  | 624  | 625  | 626  | 627  | 628  | 629   |
| 37    | 630  | 631  | 632  | 633  | 634  | 635  | 636  | 637  | 638  | 639  | 640  | 641  | 642  | 643  | 644  | 645  | 646   |
| 38    | 647  | 648  | 649  | 650  | 651  | 652  | 653  | 654  | 655  | 656  | 657  | 658  | 659  | 660  | 661  | 662  | 663   |
| 39    | 664  | 665  | 666  | 667  | 668  | 669  | 670  | 671  | 672  | 673  | 674  | 675  | 676  | 677  | 678  | 679  | 680   |
| 40    | 681  | 682  | 683  | 684  | 685  | 686  | 687  | 688  | 689  | 690  | 691  | 692  | 693  | 694  | 695  | 696  | 697   |
| 41    | 698  | 699  | 700  | 701  | 702  | 703  | 704  | 705  | 706  | 707  | 708  | 709  | 710  | 711  | 712  | 713  | 714   |
| 42    | 715  | 716  | 717  | 718  | 719  | 720  | 721  | 722  | 723  | 724  | 725  | 726  | 727  | 728  | 729  | 730  | 731   |
| 43    | 732  | 733  | 734  | 735  | 736  | 737  | 738  | 739  | 740  | 741  | 742  | 743  | 744  | 745  | 746  | 747  | 748   |
| 44    | 749  | 750  | 751  | 752  | 753  | 754  | 755  | 756  | 757  | 758  | 759  | 760  | 761  | 762  | 763  | 764  | 765   |
| 45    | 766  | 767  | 768  | 769  | 770  | 771  | 772  | 773  | 774  | 775  | 776  | 777  | 778  | 779  | 780  | 781  | 782   |
| 46    | 783  | 784  | 785  | 786  | 787  | 788  | 789  | 790  | 791  | 792  | 793  | 794  | 795  | 796  | 797  | 798  | 799   |
| 47    | 800  | 801  | 802  | 803  | 804  | 805  | 806  | 807  | 808  | 809  | 810  | 811  | 812  | 813  | 814  | 815  | 816   |
| 48    | 817  | 818  | 819  | 820  | 821  | 822  | 823  | 824  | 825  | 826  | 827  | 828  | 829  | 830  | 831  | 832  | 833   |
| 49    | 834  | 835  | 836  | 837  | 838  | 839  | 840  | 841  | 842  | 843  | 844  | 845  | 846  | 847  | 848  | 849  | 850   |
| 50    | 851  | 852  | 853  | 854  | 855  | 856  | 857  | 858  | 859  | 860  | 861  | 862  | 863  | 864  | 865  | 866  | 867   |
| 51    | 868  | 869  | 870  | 871  | 872  | 873  | 874  | 875  | 876  | 877  | 878  | 879  | 880  | 881  | 882  | 883  | 884   |
| 52    | 885  | 886  | 887  | 888  | 889  | 890  | 891  | 892  | 893  | 894  | 895  | 896  | 897  | 898  | 899  | 900  | 901   |
| 53    | 902  | 903  | 904  | 905  | 906  | 907  | 908  | 909  | 910  | 911  | 912  | 913  | 914  | 915  | 916  | 917  | 918   |
| 54    | 919  | 920  | 921  | 922  | 923  | 924  | 925  | 926  | 927  | 928  | 929  | 930  | 931  | 932  | 933  | 934  | 935   |
| 55    | 936  | 937  | 938  | 939  | 940  | 941  | 942  | 943  | 944  | 945  | 946  | 947  | 948  | 949  | 950  | 951  | 952   |
| 56    | 953  | 954  | 955  | 956  | 957  | 958  | 959  | 960  | 961  | 962  | 963  | 964  | 965  | 966  | 967  | 968  | 969   |
| 57    | 970  | 971  | 972  | 973  | 974  | 975  | 976  | 977  | 978  | 979  | 980  | 981  | 982  | 983  | 984  | 985  | 986   |
| 58    | 987  | 988  | 989  | 990  | 991  | 992  | 993  | 994  | 995  | 996  | 997  | 998  | 999  | 1000 | 1001 | 1002 | 1003  |
| 59    | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020  |
| 60    | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037  |
| 61    | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054  |
| 62    | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071  |
| 63    | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088  |
| 64    | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105  |
| 65    | 1106 | 1107 | 1108 | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 | 1119 | 1120 | 1121 | 1122  |
| 66    | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 | 1129 | 1130 | 1131 | 1132 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 | 1139  |
| 67    | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 | 1153 | 1154 | 1155 | 1156  |
| 68    | 1157 | 1158 | 1159 | 1160 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 | 1167 | 1168 | 1169 | 1170 | 1171 | 1172 | 1173  |
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| 70    | 1191 | 1192 | 1193 | 1194 | 1195 | 1196 | 1197 | 1198 | 1199 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 | 1206 | 1207  |
| 71    | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224  |
| 72    | 1225 | 1226 | 1227 | 1228 | 1229 | 1230 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 | 1237 | 1238 | 1239 | 1240 | 1241  |
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| 74    | 1259 | 1260 | 1261 | 1262 | 1263 | 1264 | 1265 | 1266 | 1267 | 1268 | 1269 | 1270 | 1271 | 1272 | 1273 | 1274 | 1275  |
| 75    | 1276 | 1277 | 1278 | 1279 | 1280 | 1281 | 1282 | 1283 | 1284 | 1285 | 1286 | 1287 | 1288 | 1289 | 1290 | 1291 | 1292  |
| 76    | 1293 | 1294 | 1295 | 1296 | 1297 | 1298 | 1299 | 1300 | 1301 | 1302 | 1303 | 1304 | 1305 | 1306 | 1307 | 1308 | 1309  |
| 77    | 1310 | 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 | 1321 | 1322 | 1323 | 1324 | 1325 | 1326  |
| 78    | 1327 | 1328 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339 | 1340 | 1341 | 1342 | 1343  |
| 79    | 1344 | 1345 | 1346 | 1347 | 1348 | 1349 | 1    |      |      |      |      |      |      |      |      |      |       |

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| 4 15 | 3 22 | 3 18 | 3 14 | 3 11 | 3 8  | 3 5  | 3 2  | 2 59 | 2 57 | 2 55 | 2 51 | 2 51 | 2 50 | 2 49 | 2 48 | 2 48 | 7 15 |
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| 4 18 | 3 1  | 2 57 | 2 53 | 2 50 | 2 47 | 2 44 | 2 41 | 2 39 | 2 36 | 2 34 | 2 32 | 2 30 | 2 29 | 2 28 | 2 27 | 2 27 | 7 12 |
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| 5 12 | 0 20 | 0 24 | 0 28 | 0 31 | 0 34 | 0 37 | 0 40 | 0 43 | 0 45 | 0 47 | 0 49 | 0 50 | 0 51 | 0 52 | 0 53 | 0 54 | 6 13 |
| 5 13 | 0 29 | 0 33 | 0 37 | 0 40 | 0 43 | 0 46 | 0 49 | 0 52 | 0 54 | 0 56 | 0 58 | 0 59 | 1 0  | 1 1  | 1 2  | 1 2  | 6 12 |
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| 0 5  | 3 54                        | 3 54 | 3 54 | 3 54 | 3 53 | 3 52 | 3 50 | 3 48 | 3 46 | 3 44 | 3 41           | 3 38 | 3 34 | 3 30 | 3 26 | 3 21 | 11 | 24 |    |    | 11 24 |
| 0 6  | 3 44                        | 3 44 | 3 44 | 3 44 | 3 43 | 3 42 | 3 40 | 3 38 | 3 36 | 3 34 | 3 31           | 3 28 | 3 24 | 3 20 | 3 16 | 3 11 | 11 | 23 |    |    | 11 23 |
| 0 7  | 3 33                        | 3 33 | 3 33 | 3 33 | 3 32 | 3 31 | 3 29 | 3 27 | 3 25 | 3 23 | 3 20           | 3 17 | 3 13 | 3 9  | 3 5  | 3 0  | 11 | 22 |    |    | 11 22 |
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| 0 11 | 2 51                        | 2 51 | 2 51 | 2 51 | 2 50 | 2 49 | 2 47 | 2 45 | 2 43 | 2 41 | 2 38           | 2 35 | 2 31 | 2 27 | 2 23 | 2 18 | 11 | 18 |    |    | 11 18 |
| 0 12 | 2 41                        | 2 41 | 2 41 | 2 41 | 2 40 | 2 39 | 2 37 | 2 35 | 2 33 | 2 31 | 2 28           | 2 25 | 2 21 | 2 17 | 2 13 | 2 8  | 11 | 17 |    |    | 11 17 |
| 0 13 | 2 30                        | 2 30 | 2 30 | 2 30 | 2 29 | 2 28 | 2 26 | 2 24 | 2 22 | 2 20 | 2 17           | 2 14 | 2 10 | 2 6  | 2 2  | 1 57 | 11 | 16 |    |    | 11 16 |
| 0 14 | 2 20                        | 2 20 | 2 20 | 2 20 | 2 19 | 2 18 | 2 16 | 2 14 | 2 12 | 2 10 | 2 7            | 2 4  | 2 0  | 1 56 | 1 52 | 1 47 | 11 | 15 |    |    | 11 15 |
| 0 15 | 2 10                        | 2 10 | 2 10 | 2 10 | 2 9  | 2 8  | 2 6  | 2 4  | 2 2  | 2 0  | 1 57           | 1 54 | 1 50 | 1 46 | 1 42 | 1 37 | 11 | 14 |    |    | 11 14 |
| 0 16 | 2 0                         | 2 0  | 2 0  | 2 0  | 2 0  | 1 59 | 1 56 | 1 54 | 1 52 | 1 50 | 1 47           | 1 44 | 1 40 | 1 36 | 1 32 | 1 27 | 11 | 13 |    |    | 11 13 |
| 0 17 | 1 50                        | 1 50 | 1 50 | 1 50 | 1 49 | 1 48 | 1 46 | 1 44 | 1 42 | 1 40 | 1 37           | 1 34 | 1 30 | 1 26 | 1 22 | 1 17 | 11 | 12 |    |    | 11 12 |
| 0 18 | 1 40                        | 1 40 | 1 40 | 1 40 | 1 39 | 1 38 | 1 36 | 1 34 | 1 32 | 1 30 | 1 27           | 1 24 | 1 20 | 1 16 | 1 12 | 1 7  | 11 | 11 |    |    | 11 11 |
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| 0 23 | 0 50                        | 0 50 | 0 50 | 0 50 | 0 49 | 0 48 | 0 46 | 0 44 | 0 42 | 0 40 | 0 37           | 0 34 | 0 30 | 0 26 | 0 22 | 0 17 | 11 | 6  |    |    | 11 6  |
| 0 24 | 0 40                        | 0 40 | 0 40 | 0 40 | 0 39 | 0 38 | 0 36 | 0 34 | 0 32 | 0 30 | 0 27           | 0 24 | 0 20 | 0 16 | 0 12 | 0 8  | 11 | 5  |    |    | 11 5  |
| 0 25 | 0 30                        | 0 30 | 0 30 | 0 30 | 0 29 | 0 28 | 0 26 | 0 24 | 0 22 | 0 20 | 0 17           | 0 14 | 0 10 | 0 6  | 0 2  | 0 0  | 11 | 4  |    |    | 11 4  |
| 0 26 | 0 20                        | 0 21 | 0 21 | 0 21 | 0 20 | 0 19 | 0 17 | 0 15 | 0 13 | 0 11 | 0 8            | 0 5  | 0 1  | 0 0  | 0 0  | 0 0  | 11 | 3  |    |    | 11 3  |
| 0 27 | 0 11                        | 0 11 | 0 11 | 0 11 | 0 10 | 0 9  | 0 7  | 0 5  | 0 3  | 0 1  | 0 0            | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 11 | 2  |    |    | 11 2  |
| 0 28 | 0 0                         | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0            | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 11 | 1  |    |    | 11 1  |
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| 0 30 | 0 0                         | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 0 0            | 0 0  | 0 0  | 0 0  | 0 0  | 0 0  | 11 | 0  |    |    | 11 0  |
| 1 1  | 0 26                        | 0 26 | 0 26 | 0 26 | 0 25 | 0 24 | 0 22 | 0 20 | 0 18 | 0 16 | 0 13           | 0 10 | 0 6  | 0 2  | 0 0  | 0 0  | 10 | 29 |    |    | 10 29 |
| 1 2  | 0 35                        | 0 35 | 0 35 | 0 35 | 0 34 | 0 33 | 0 31 | 0 29 | 0 27 | 0 25 | 0 22           | 0 19 | 0 15 | 0 11 | 0 7  | 0 3  | 10 | 28 |    |    | 10 28 |
| 1 3  | 0 44                        | 0 44 | 0 44 | 0 44 | 0 43 | 0 42 | 0 40 | 0 38 | 0 36 | 0 34 | 0 31           | 0 28 | 0 24 | 0 20 | 0 16 | 0 12 | 10 | 27 |    |    | 10 27 |
| 1 4  | 0 53                        | 0 53 | 0 53 | 0 53 | 0 52 | 0 51 | 0 49 | 0 47 | 0 45 | 0 43 | 0 40           | 0 37 | 0 33 | 0 29 | 0 25 | 0 21 | 10 | 26 |    |    | 10 26 |
| 1 5  | 1 2                         | 1 2  | 1 2  | 1 2  | 1 1  | 1 0  | 1 8  | 1 6  | 1 4  | 1 2  | 1 0            | 0 7  | 0 3  | 0 0  | 0 0  | 0 0  | 10 | 25 |    |    | 10 25 |
| 1 6  | 1 10                        | 1 10 | 1 10 | 1 10 | 1 9  | 1 8  | 1 6  | 1 4  | 1 2  | 1 0  | 0 7            | 0 3  | 0 0  | 0 0  | 0 0  | 0 0  | 10 | 24 |    |    | 10 24 |
| 1 7  | 1 19                        | 1 19 | 1 19 | 1 19 | 1 18 | 1 17 | 1 15 | 1 13 | 1 11 | 1 9  | 1 6            | 0 3  | 0 0  | 0 0  | 0 0  | 0 0  | 10 | 23 |    |    | 10 23 |
| 1 8  | 1 27                        | 1 27 | 1 27 | 1 27 | 1 26 | 1 25 | 1 23 | 1 21 | 1 19 | 1 17 | 1 14           | 1 11 | 1 7  | 0 3  | 0 0  | 0 0  | 10 | 22 |    |    | 10 22 |
| 1 9  | 1 35                        | 1 35 | 1 35 | 1 35 | 1 34 | 1 33 | 1 31 | 1 29 | 1 27 | 1 25 | 1 22           | 1 19 | 1 15 | 1 11 | 0 7  | 0 3  | 10 | 21 |    |    | 10 21 |
| 1 10 | 1 44                        | 1 44 | 1 44 | 1 44 | 1 43 | 1 42 | 1 40 | 1 38 | 1 36 | 1 34 | 1 31           | 1 28 | 1 24 | 1 20 | 1 16 | 1 12 | 10 | 20 |    |    | 10 20 |
| 1 11 | 1 52                        | 1 52 | 1 52 | 1 52 | 1 51 | 1 50 | 1 48 | 1 46 | 1 44 | 1 42 | 1 39           | 1 36 | 1 32 | 1 28 | 1 24 | 1 20 | 10 | 19 |    |    | 10 19 |
| 1 12 | 2 0                         | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0            | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 10 | 18 |    |    | 10 18 |
| 1 13 | 2 8                         | 2 8  | 2 8  | 2 8  | 2 7  | 2 6  | 2 4  | 2 2  | 2 0  | 1 18 | 1 15           | 1 12 | 1 8  | 1 4  | 0 0  | 0 0  | 10 | 17 |    |    | 10 17 |
| 1 14 | 2 16                        | 2 16 | 2 16 | 2 16 | 2 15 | 2 14 | 2 12 | 2 10 | 2 8  | 2 6  | 2 3            | 2 0  | 1 16 | 1 12 | 1 8  | 0 0  | 10 | 16 |    |    | 10 16 |
| 1 15 | 2 23                        | 2 23 | 2 23 | 2 23 | 2 22 | 2 21 | 2 19 | 2 17 | 2 15 | 2 13 | 2 10           | 2 7  | 1 13 | 1 9  | 1 5  | 0 0  | 10 | 15 |    |    | 10 15 |
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| 16   | 2 31 | 2 31 | 2 31 | 2 31 | 2 32 | 2 32 | 2 33 | 2 35 | 2 37 | 2 39 | 2 41 | 2 44 | 2 47 | 2 51 | 2 55 | 2 59 | 10 14 |
| 17   | 2 39 | 2 39 | 2 39 | 2 39 | 2 40 | 2 40 | 2 41 | 2 43 | 2 45 | 2 47 | 2 49 | 2 52 | 2 55 | 2 59 | 3 3  | 3 7  | 10 13 |
| 18   | 2 46 | 2 46 | 2 46 | 2 46 | 2 47 | 2 48 | 2 50 | 2 52 | 2 54 | 2 56 | 2 59 | 3 2  | 3 6  | 3 10 | 3 14 | 3 18 | 10 12 |
| 19   | 2 53 | 2 53 | 2 53 | 2 53 | 2 54 | 2 55 | 2 57 | 2 59 | 3 1  | 3 3  | 3 6  | 3 9  | 3 13 | 3 17 | 3 21 | 3 25 | 10 11 |
| 20   | 3 0  | 3 0  | 3 0  | 3 0  | 3 1  | 3 2  | 3 4  | 3 6  | 3 8  | 3 10 | 3 13 | 3 16 | 3 20 | 3 24 | 3 28 | 3 32 | 10 10 |
| 21   | 3 6  | 3 6  | 3 6  | 3 6  | 3 7  | 3 8  | 3 10 | 3 12 | 3 14 | 3 16 | 3 19 | 3 22 | 3 26 | 3 30 | 3 34 | 3 38 | 10 9  |
| 22   | 3 13 | 3 13 | 3 13 | 3 13 | 3 14 | 3 15 | 3 17 | 3 19 | 3 21 | 3 23 | 3 26 | 3 29 | 3 33 | 3 37 | 3 41 | 3 45 | 10 8  |
| 23   | 3 20 | 3 20 | 3 20 | 3 20 | 3 21 | 3 22 | 3 24 | 3 26 | 3 28 | 3 30 | 3 33 | 3 36 | 3 40 | 3 44 | 3 48 | 3 52 | 10 7  |
| 24   | 3 26 | 3 26 | 3 26 | 3 26 | 3 27 | 3 28 | 3 30 | 3 32 | 3 34 | 3 36 | 3 39 | 3 42 | 3 46 | 3 50 | 3 54 | 3 58 | 10 6  |
| 25   | 3 32 | 3 32 | 3 32 | 3 32 | 3 33 | 3 34 | 3 36 | 3 38 | 3 40 | 3 42 | 3 45 | 3 48 | 3 52 | 3 56 | 4 0  | 4 4  | 10 5  |
| 26   | 3 38 | 3 38 | 3 38 | 3 38 | 3 39 | 3 40 | 3 42 | 3 44 | 3 46 | 3 48 | 3 51 | 3 54 | 3 58 | 4 2  | 4 6  | 4 10 | 10 4  |
| 27   | 3 44 | 3 44 | 3 44 | 3 44 | 3 45 | 3 46 | 3 48 | 3 50 | 3 52 | 3 54 | 3 57 | 4 0  | 4 4  | 4 8  | 4 12 | 4 16 | 10 3  |
| 28   | 3 50 | 3 50 | 3 50 | 3 50 | 3 51 | 3 52 | 3 54 | 3 56 | 3 58 | 4 0  | 4 3  | 4 6  | 4 10 | 4 14 | 4 18 | 4 22 | 10 2  |
| 29   | 3 56 | 3 56 | 3 56 | 3 56 | 3 57 | 3 58 | 4 0  | 4 2  | 4 4  | 4 6  | 4 9  | 4 12 | 4 16 | 4 20 | 4 24 | 4 28 | 10 1  |
| 30   | 4 1  | 4 1  | 4 1  | 4 1  | 4 2  | 4 3  | 4 5  | 4 7  | 4 9  | 4 11 | 4 14 | 4 17 | 4 21 | 4 25 | 4 29 | 4 33 | 10 0  |
| 31   | 4 6  | 4 6  | 4 6  | 4 6  | 4 7  | 4 8  | 4 10 | 4 12 | 4 14 | 4 16 | 4 19 | 4 22 | 4 26 | 4 30 | 4 34 | 4 38 | 9 59  |
| 32   | 4 11 | 4 11 | 4 11 | 4 11 | 4 12 | 4 13 | 4 15 | 4 17 | 4 19 | 4 21 | 4 24 | 4 27 | 4 31 | 4 35 | 4 39 | 4 43 | 9 58  |
| 33   | 4 16 | 4 16 | 4 16 | 4 16 | 4 17 | 4 18 | 4 20 | 4 22 | 4 24 | 4 26 | 4 29 | 4 32 | 4 36 | 4 40 | 4 44 | 4 48 | 9 57  |
| 34   | 4 21 | 4 21 | 4 21 | 4 21 | 4 22 | 4 23 | 4 25 | 4 27 | 4 29 | 4 31 | 4 34 | 4 37 | 4 41 | 4 45 | 4 49 | 4 53 | 9 56  |
| 35   | 4 26 | 4 26 | 4 26 | 4 26 | 4 27 | 4 28 | 4 30 | 4 32 | 4 34 | 4 36 | 4 39 | 4 42 | 4 46 | 4 50 | 4 54 | 4 58 | 9 55  |
| 36   | 4 31 | 4 31 | 4 31 | 4 31 | 4 32 | 4 33 | 4 35 | 4 37 | 4 39 | 4 41 | 4 44 | 4 47 | 4 51 | 4 55 | 4 59 | 5 2  | 9 54  |
| 37   | 4 35 | 4 35 | 4 35 | 4 35 | 4 36 | 4 37 | 4 39 | 4 41 | 4 43 | 4 45 | 4 48 | 4 51 | 4 54 | 4 58 | 5 2  | 5 6  | 9 53  |
| 38   | 4 39 | 4 39 | 4 39 | 4 39 | 4 40 | 4 41 | 4 43 | 4 45 | 4 47 | 4 49 | 4 52 | 4 55 | 4 58 | 5 2  | 5 6  | 5 10 | 9 52  |
| 39   | 4 43 | 4 43 | 4 43 | 4 43 | 4 44 | 4 45 | 4 47 | 4 49 | 4 51 | 4 53 | 4 56 | 4 59 | 5 2  | 5 6  | 5 10 | 5 14 | 9 51  |
| 40   | 4 47 | 4 47 | 4 47 | 4 47 | 4 48 | 4 49 | 4 51 | 4 53 | 4 55 | 4 57 | 5 0  | 5 3  | 5 6  | 5 10 | 5 14 | 5 18 | 9 50  |
| 41   | 4 51 | 4 51 | 4 51 | 4 51 | 4 52 | 4 53 | 4 55 | 4 57 | 4 59 | 5 1  | 5 4  | 5 7  | 5 10 | 5 14 | 5 18 | 5 22 | 9 49  |
| 42   | 4 54 | 4 54 | 4 54 | 4 54 | 4 55 | 4 56 | 4 58 | 5 0  | 5 2  | 5 4  | 5 7  | 5 10 | 5 14 | 5 17 | 5 21 | 5 25 | 9 48  |
| 43   | 4 57 | 4 57 | 4 57 | 4 57 | 4 58 | 4 59 | 5 1  | 5 3  | 5 5  | 5 7  | 5 10 | 5 13 | 5 16 | 5 20 | 5 24 | 5 28 | 9 47  |
| 44   | 5 0  | 5 0  | 5 0  | 5 0  | 5 1  | 5 2  | 5 4  | 5 6  | 5 8  | 5 10 | 5 13 | 5 16 | 5 19 | 5 23 | 5 27 | 5 32 | 9 46  |
| 45   | 5 3  | 5 3  | 5 3  | 5 3  | 5 4  | 5 5  | 5 7  | 5 9  | 5 11 | 5 13 | 5 16 | 5 19 | 5 22 | 5 26 | 5 30 | 5 35 | 9 45  |
| 46   | 5 6  | 5 6  | 5 6  | 5 6  | 5 7  | 5 8  | 5 10 | 5 12 | 5 14 | 5 16 | 5 19 | 5 22 | 5 25 | 5 29 | 5 33 | 5 38 | 9 44  |
| 47   | 5 9  | 5 9  | 5 9  | 5 9  | 5 10 | 5 11 | 5 13 | 5 15 | 5 17 | 5 19 | 5 22 | 5 25 | 5 28 | 5 32 | 5 36 | 5 41 | 9 43  |
| 48   | 5 11 | 5 11 | 5 11 | 5 11 | 5 12 | 5 13 | 5 15 | 5 17 | 5 19 | 5 21 | 5 24 | 5 27 | 5 30 | 5 34 | 5 38 | 5 43 | 9 42  |
| 49   | 5 13 | 5 13 | 5 13 | 5 13 | 5 14 | 5 15 | 5 17 | 5 19 | 5 21 | 5 23 | 5 26 | 5 29 | 5 32 | 5 36 | 5 40 | 5 45 | 9 41  |
| 50   | 5 15 | 5 15 | 5 15 | 5 15 | 5 16 | 5 17 | 5 19 | 5 21 | 5 23 | 5 25 | 5 28 | 5 31 | 5 34 | 5 38 | 5 42 | 5 47 | 9 40  |
| 51   | 5 17 | 5 17 | 5 17 | 5 17 | 5 18 | 5 19 | 5 21 | 5 23 | 5 25 | 5 27 | 5 30 | 5 33 | 5 36 | 5 40 | 5 44 | 5 49 | 9 39  |
| 52   | 5 19 | 5 19 | 5 19 | 5 19 | 5 20 | 5 21 | 5 23 | 5 25 | 5 27 | 5 29 | 5 32 | 5 35 | 5 38 | 5 42 | 5 46 | 5 50 | 9 38  |
| 53   | 5 21 | 5 21 | 5 21 | 5 21 | 5 22 | 5 23 | 5 25 | 5 27 | 5 29 | 5 31 | 5 34 | 5 37 | 5 40 | 5 44 | 5 48 | 5 52 | 9 37  |
| 54   | 5 23 | 5 23 | 5 23 | 5 23 | 5 24 | 5 25 | 5 27 | 5 29 | 5 31 | 5 33 | 5 36 | 5 39 | 5 42 | 5 46 | 5 50 | 5 54 | 9 36  |
| 55   | 5 24 | 5 24 | 5 24 | 5 24 | 5 25 | 5 26 | 5 27 | 5 29 | 5 31 | 5 33 | 5 36 | 5 39 | 5 42 | 5 46 | 5 50 | 5 54 | 9 35  |
| 56   | 5 25 | 5 25 | 5 25 | 5 25 | 5 26 | 5 27 | 5 28 | 5 30 | 5 32 | 5 34 | 5 37 | 5 40 | 5 43 | 5 47 | 5 51 | 5 55 | 9 34  |
| 57   | 5 26 | 5 26 | 5 26 | 5 26 | 5 27 | 5 28 | 5 29 | 5 31 | 5 33 | 5 35 | 5 38 | 5 41 | 5 44 | 5 47 | 5 51 | 5 55 | 9 33  |
| 58   | 5 26 | 5 26 | 5 26 | 5 26 | 5 27 | 5 28 | 5 29 | 5 31 | 5 33 | 5 35 | 5 38 | 5 41 | 5 44 | 5 48 | 5 52 | 5 56 | 9 32  |
| 59   | 5 27 | 5 27 | 5 27 | 5 27 | 5 28 | 5 29 | 5 30 | 5 32 | 5 34 | 5 36 | 5 39 | 5 42 | 5 45 | 5 49 | 5 52 | 5 57 | 9 31  |
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|--|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
|  |  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80  | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
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|  |  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80  | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|  |  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80  | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|  |  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80  | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
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203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 |
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| 1 25 | 4 4  | 4 9  | 4 14 | 4 20 | 4 26 | 4 32 | 4 38 | 4 44 | 4 50 | 4 56 | 5 0  | 5 06 | 5 12 | 5 18 | 5 24 | 5 30 | 10 25 |
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| 3 3                     | 5 57 | 6 1  | 6 6  | 6 11 | 6 16 | 6 22 | 6 28 | 6 34 | 6 40 | 6 47 | 6 54 | 7 1  | 7 8  | 7 15 | 7 23 | 7 31 | 8 27 | 3 3                     |
| 3 4                     | 5 56 | 6 1  | 6 6  | 6 11 | 6 16 | 6 22 | 6 28 | 6 34 | 6 40 | 6 47 | 6 53 | 7 0  | 7 7  | 7 14 | 7 22 | 7 30 | 8 26 | 3 4                     |
| 3 5                     | 5 56 | 6 0  | 6 5  | 6 10 | 6 15 | 6 21 | 6 27 | 6 33 | 6 39 | 6 46 | 6 52 | 6 59 | 7 6  | 7 13 | 7 21 | 7 29 | 8 25 | 3 5                     |
| 3 6                     | 5 56 | 6 0  | 6 5  | 6 10 | 6 15 | 6 20 | 6 26 | 6 32 | 6 38 | 6 45 | 6 51 | 6 58 | 7 5  | 7 12 | 7 20 | 7 28 | 8 24 | 3 6                     |
| 3 7                     | 5 54 | 5 58 | 6 3  | 6 8  | 6 13 | 6 19 | 6 25 | 6 31 | 6 37 | 6 44 | 6 50 | 6 57 | 7 4  | 7 11 | 7 19 | 7 27 | 8 23 | 3 7                     |
| 3 8                     | 5 52 | 5 56 | 6 1  | 6 6  | 6 11 | 6 17 | 6 23 | 6 29 | 6 35 | 6 42 | 6 48 | 6 55 | 7 2  | 7 9  | 7 17 | 7 25 | 8 22 | 3 8                     |
| 3 9                     | 5 51 | 5 55 | 6 0  | 6 5  | 6 10 | 6 16 | 6 22 | 6 28 | 6 34 | 6 41 | 6 47 | 6 54 | 7 1  | 7 8  | 7 16 | 7 24 | 8 21 | 3 9                     |
| 3 10                    | 5 49 | 5 53 | 5 58 | 6 3  | 6 8  | 6 14 | 6 20 | 6 26 | 6 32 | 6 39 | 6 45 | 6 52 | 6 59 | 7 6  | 7 14 | 7 22 | 8 20 | 3 10                    |
| 3 11                    | 5 48 | 5 52 | 5 57 | 6 2  | 6 7  | 6 13 | 6 19 | 6 25 | 6 31 | 6 38 | 6 44 | 6 51 | 6 58 | 7 5  | 7 13 | 7 21 | 8 19 | 3 11                    |
| 3 12                    | 4 46 | 5 50 | 5 55 | 6 0  | 6 5  | 6 11 | 6 17 | 6 23 | 6 29 | 6 36 | 6 42 | 6 49 | 6 56 | 7 3  | 7 11 | 7 19 | 8 18 | 3 12                    |
| 3 13                    | 4 44 | 5 48 | 5 53 | 5 58 | 6 3  | 6 9  | 6 15 | 6 21 | 6 27 | 6 34 | 6 40 | 6 47 | 6 54 | 7 1  | 7 9  | 7 17 | 8 17 | 3 13                    |
| 3 14                    | 5 41 | 5 45 | 5 50 | 5 55 | 6 0  | 6 6  | 6 12 | 6 18 | 6 24 | 6 31 | 6 37 | 6 44 | 6 51 | 6 58 | 7 6  | 7 14 | 8 16 | 3 14                    |
| 3 15                    | 5 39 | 5 43 | 5 48 | 5 53 | 5 58 | 6 4  | 6 10 | 6 16 | 6 22 | 6 28 | 6 34 | 6 41 | 6 48 | 6 55 | 7 3  | 7 11 | 8 15 | 3 15                    |
| 3 16                    | 5 36 | 5 40 | 5 45 | 5 50 | 5 55 | 6 1  | 6 7  | 6 13 | 6 19 | 6 26 | 6 32 | 6 39 | 6 46 | 6 53 | 7 1  | 7 9  | 8 14 | 3 16                    |
| 3 17                    | 5 34 | 5 38 | 5 43 | 5 48 | 5 53 | 5 59 | 6 5  | 6 11 | 6 17 | 6 23 | 6 29 | 6 36 | 6 43 | 6 50 | 6 58 | 7 6  | 8 13 | 3 17                    |
| 3 18                    | 5 31 | 5 35 | 5 40 | 5 45 | 5 50 | 5 56 | 6 2  | 6 8  | 6 14 | 6 20 | 6 26 | 6 33 | 6 40 | 6 47 | 6 55 | 7 3  | 8 12 | 3 18                    |
| 3 19                    | 5 28 | 5 32 | 5 37 | 5 42 | 5 47 | 5 53 | 5 59 | 6 5  | 6 11 | 6 17 | 6 23 | 6 30 | 6 37 | 6 44 | 6 52 | 7 0  | 8 11 | 3 19                    |
| 3 20                    | 5 24 | 5 28 | 5 33 | 5 38 | 5 43 | 5 49 | 5 55 | 6 1  | 6 7  | 6 13 | 6 19 | 6 26 | 6 33 | 6 40 | 6 48 | 6 56 | 8 10 | 3 20                    |
| 3 21                    | 5 21 | 5 25 | 5 30 | 5 35 | 5 40 | 5 46 | 5 52 | 5 58 | 6 4  | 6 10 | 6 16 | 6 23 | 6 30 | 6 37 | 6 44 | 6 52 | 8 9  | 3 21                    |
| 3 22                    | 5 17 | 5 21 | 5 26 | 5 31 | 5 36 | 5 42 | 5 48 | 5 54 | 6 0  | 6 6  | 6 12 | 6 19 | 6 26 | 6 33 | 6 41 | 6 49 | 8 8  | 3 22                    |
| 3 23                    | 5 14 | 5 18 | 5 23 | 5 28 | 5 33 | 5 39 | 5 45 | 5 51 | 5 57 | 6 3  | 6 9  | 6 16 | 6 23 | 6 30 | 6 37 | 6 45 | 8 7  | 3 23                    |
| 3 24                    | 5 10 | 5 14 | 5 19 | 5 24 | 5 29 | 5 35 | 5 41 | 5 47 | 5 53 | 5 59 | 6 5  | 6 12 | 6 19 | 6 26 | 6 33 | 6 41 | 8 6  | 3 24                    |
| 3 25                    | 5 6  | 5 10 | 5 15 | 5 20 | 5 25 | 5 31 | 5 37 | 5 43 | 5 49 | 5 55 | 6 1  | 6 8  | 6 15 | 6 22 | 6 29 | 6 37 | 8 5  | 3 25                    |
| 3 26                    | 5 2  | 5 6  | 5 11 | 5 16 | 5 21 | 5 26 | 5 32 | 5 38 | 5 44 | 5 50 | 5 56 | 6 3  | 6 10 | 6 17 | 6 24 | 6 32 | 8 4  | 3 26                    |
| 3 27                    | 4 59 | 5 1  | 5 6  | 5 11 | 5 16 | 5 22 | 5 28 | 5 34 | 5 40 | 5 46 | 5 52 | 5 58 | 6 5  | 6 12 | 6 19 | 6 27 | 8 3  | 3 27                    |
| 3 28                    | 4 54 | 4 57 | 5 2  | 5 7  | 5 12 | 5 17 | 5 23 | 5 29 | 5 35 | 5 41 | 5 47 | 5 54 | 6 1  | 6 8  | 6 15 | 6 23 | 8 2  | 3 28                    |
| 3 29                    | 4 49 | 4 51 | 4 56 | 5 1  | 5 6  | 5 11 | 5 17 | 5 23 | 5 29 | 5 35 | 5 41 | 5 47 | 5 54 | 6 1  | 6 10 | 6 18 | 8 1  | 3 29                    |
| 4 0                     | 4 44 | 4 48 | 4 51 | 4 56 | 5 1  | 5 6  | 5 11 | 5 17 | 5 23 | 5 29 | 5 35 | 5 41 | 5 47 | 5 54 | 6 1  | 6 11 | 8 0  | 4 0                     |
| 4 1                     | 4 39 | 4 41 | 4 46 | 4 51 | 4 56 | 5 1  | 5 6  | 5 12 | 5 18 | 5 24 | 5 30 | 5 36 | 5 42 | 5 49 | 5 56 | 6 0  | 7 29 | 4 1                     |
| 4 2                     | 4 34 | 4 38 | 4 42 | 4 47 | 4 52 | 4 57 | 5 1  | 5 6  | 5 12 | 5 18 | 5 24 | 5 30 | 5 36 | 5 42 | 5 49 | 5 56 | 7 28 | 4 2                     |
| 4 3                     | 4 28 | 4 32 | 4 37 | 4 42 | 4 47 | 4 52 | 4 58 | 5 4  | 5 10 | 5 16 | 5 22 | 5 28 | 5 34 | 5 40 | 5 47 | 5 54 | 7 27 | 4 3                     |
| 4 4                     | 4 23 | 4 27 | 4 31 | 4 36 | 4 41 | 4 46 | 4 52 | 4 58 | 5 4  | 5 10 | 5 16 | 5 22 | 5 29 | 5 35 | 5 42 | 5 49 | 7 26 | 4 4                     |
| 4 5                     | 4 18 | 4 22 | 4 26 | 4 31 | 4 36 | 4 41 | 4 47 | 4 52 | 4 59 | 5 5  | 5 11 | 5 17 | 5 24 | 5 31 | 5 38 | 5 46 | 7 25 | 4 5                     |
| 4 6                     | 4 12 | 4 16 | 4 20 | 4 25 | 4 30 | 4 35 | 4 41 | 4 47 | 4 53 | 4 59 | 5 5  | 5 11 | 5 18 | 5 25 | 5 32 | 5 40 | 7 24 | 4 6                     |
| 4 7                     | 4 6  | 4 10 | 4 14 | 4 19 | 4 24 | 4 29 | 4 35 | 4 41 | 4 47 | 4 53 | 4 59 | 5 5  | 5 12 | 5 19 | 5 26 | 5 34 | 7 23 | 4 7                     |
| 4 8                     | 4 0  | 4 4  | 8 8  | 4 13 | 4 18 | 4 23 | 4 29 | 4 35 | 4 41 | 4 47 | 4 53 | 4 59 | 5 5  | 5 13 | 5 20 | 5 28 | 7 22 | 4 8                     |
| 4 9                     | 3 54 | 3 58 | 4 2  | 4 7  | 4 12 | 4 17 | 4 23 | 4 29 | 4 35 | 4 41 | 4 47 | 4 53 | 5 0  | 5 7  | 5 14 | 5 22 | 7 21 | 4 9                     |
| 4 10                    | 3 48 | 3 52 | 3 56 | 4 1  | 4 6  | 4 11 | 4 17 | 4 23 | 4 29 | 4 35 | 4 41 | 4 47 | 4 54 | 5 1  | 5 8  | 5 16 | 7 20 | 4 10                    |
| 4 11                    | 3 42 | 3 46 | 3 50 | 3 55 | 4 0  | 4 5  | 4 11 | 4 17 | 4 23 | 4 29 | 4 35 | 4 41 | 4 48 | 4 55 | 5 2  | 5 10 | 7 19 | 4 11                    |
| 4 12                    | 3 35 | 3 39 | 3 43 | 3 48 | 3 53 | 3 58 | 4 4  | 4 10 | 4 16 | 4 22 | 4 28 | 4 34 | 4 41 | 4 48 | 4 55 | 5 3  | 7 18 | 4 12                    |
| 4 13                    | 3 29 | 3 33 | 3 37 | 3 42 | 3 47 | 3 52 | 3 58 | 4 3  | 4 9  | 4 15 | 4 21 | 4 27 | 4 34 | 4 41 | 4 48 | 4 56 | 7 17 | 4 13                    |
| 4 14                    | 3 23 | 3 26 | 3 30 | 3 35 | 3 40 | 3 45 | 3 51 | 3 56 | 4 2  | 4 8  | 4 14 | 4 20 | 4 27 | 4 34 | 4 41 | 4 49 | 7 16 | 4 14                    |
| 4 15                    | 3 15 | 3 19 | 3 23 | 3 28 | 3 33 | 3 38 | 3 44 | 3 49 | 3 55 | 4 1  | 4 7  | 4 13 | 4 20 | 4 27 | 4 34 | 4 42 | 7 15 | 4 15                    |
|                         | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  |      |                         |
|                         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                         |
|                         | 30   | 28   | 26   | 24   | 22   | 20   | 18   | 16   | 14   | 12   | 10   | 8    | 6    | 4    | 2    | 0    |      |                         |

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|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| hora | 5    | m    | 5    | m    | 5    | m    | 5    | m    | 5    | m    | 5    | m    | 5    | m    | 5    | m    | 5    | m   |
| 4 15 | 3 15 | 3 19 | 3 23 | 3 28 | 3 33 | 3 38 | 3 44 | 3 49 | 3 55 | 4 1  | 4 7  | 4 13 | 4 20 | 4 27 | 4 34 | 4 42 | 7 15 |     |
| 4 16 | 3 8  | 3 12 | 3 16 | 3 21 | 3 26 | 3 31 | 3 37 | 3 42 | 3 48 | 3 54 | 4 0  | 4 6  | 4 13 | 4 20 | 4 27 | 4 35 | 7 14 |     |
| 4 17 | 3 1  | 3 5  | 3 9  | 3 14 | 3 19 | 3 24 | 3 30 | 3 35 | 3 41 | 3 47 | 3 53 | 3 59 | 4 6  | 4 13 | 4 20 | 4 28 | 7 13 |     |
| 4 18 | 2 54 | 2 58 | 3 2  | 3 17 | 3 12 | 3 17 | 3 23 | 3 28 | 3 34 | 3 40 | 3 46 | 3 52 | 3 59 | 4 6  | 4 13 | 4 20 | 7 12 |     |
| 4 19 | 2 47 | 2 51 | 2 55 | 3 0  | 3 5  | 3 10 | 3 16 | 3 21 | 3 27 | 3 33 | 3 39 | 3 45 | 3 52 | 3 59 | 4 6  | 4 13 | 7 11 |     |
| 4 20 | 2 39 | 2 43 | 2 47 | 2 52 | 2 57 | 3 2  | 3 8  | 3 13 | 3 19 | 3 25 | 3 31 | 3 37 | 3 44 | 3 51 | 3 58 | 4 5  | 7 10 |     |
| 4 21 | 2 31 | 2 35 | 2 39 | 2 44 | 2 49 | 2 54 | 3 0  | 3 5  | 3 11 | 3 17 | 3 23 | 3 29 | 3 36 | 3 43 | 3 50 | 3 57 | 7 9  |     |
| 4 22 | 2 24 | 2 28 | 2 32 | 2 37 | 2 42 | 2 47 | 2 53 | 2 58 | 3 4  | 3 10 | 3 16 | 3 22 | 3 29 | 3 36 | 3 43 | 3 50 | 7 8  |     |
| 4 23 | 2 16 | 2 20 | 2 24 | 2 29 | 2 34 | 2 39 | 2 45 | 2 50 | 2 56 | 3 2  | 3 8  | 3 14 | 3 21 | 3 28 | 3 35 | 3 42 | 7 7  |     |
| 4 24 | 2 8  | 2 12 | 2 16 | 2 21 | 2 26 | 2 31 | 2 37 | 2 42 | 2 48 | 2 54 | 3 0  | 3 6  | 3 13 | 3 20 | 3 27 | 3 34 | 7 6  |     |
| 4 25 | 2 0  | 2 4  | 2 8  | 2 13 | 2 18 | 2 23 | 2 29 | 2 34 | 2 40 | 2 46 | 2 52 | 2 58 | 3 5  | 3 12 | 3 19 | 3 26 | 7 5  |     |
| 4 26 | 1 52 | 1 56 | 2 0  | 2 5  | 2 10 | 2 15 | 2 21 | 2 26 | 2 32 | 2 38 | 2 44 | 2 50 | 2 57 | 3 4  | 3 11 | 3 18 | 7 4  |     |
| 4 27 | 1 44 | 1 48 | 1 52 | 1 57 | 2 2  | 2 7  | 2 13 | 2 18 | 2 24 | 2 30 | 2 36 | 2 42 | 2 49 | 2 56 | 3 3  | 3 10 | 7 3  |     |
| 4 28 | 1 36 | 1 40 | 1 44 | 1 49 | 1 54 | 1 59 | 2 5  | 2 10 | 2 16 | 2 22 | 2 28 | 2 34 | 2 41 | 2 48 | 2 55 | 3 2  | 7 2  |     |
| 4 29 | 1 28 | 1 32 | 1 36 | 1 41 | 1 46 | 1 51 | 1 57 | 2 2  | 2 8  | 2 14 | 2 20 | 2 26 | 2 33 | 2 40 | 2 47 | 2 54 | 7 1  |     |
| 5 0  | 1 19 | 1 23 | 1 27 | 1 32 | 1 37 | 1 42 | 1 48 | 1 53 | 1 59 | 2 5  | 2 11 | 2 17 | 2 24 | 2 31 | 2 38 | 2 45 | 7 0  |     |
| 5 1  | 1 11 | 1 15 | 1 19 | 1 24 | 1 29 | 1 34 | 1 40 | 1 45 | 1 51 | 1 57 | 2 3  | 2 9  | 2 16 | 2 23 | 2 30 | 2 37 | 6 59 |     |
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| 5 4  | 0 45 | 0 49 | 0 53 | 0 58 | 1 1  | 1 8  | 1 14 | 1 19 | 1 25 | 1 31 | 1 37 | 1 43 | 1 49 | 1 56 | 2 3  | 2 10 | 6 56 |     |
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| 5 8  | 0 9  | 0 13 | 0 17 | 0 22 | 0 27 | 0 32 | 0 38 | 0 43 | 0 49 | 0 55 | 1 1  | 1 7  | 1 13 | 1 20 | 1 27 | 1 34 | 6 52 |     |
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| 5 12 | 0 27 | 0 23 | 0 19 | 0 14 | 0 9  | om   | om   | 0 6  | 0 12 | 0 18 | 0 24 | 0 30 | 0 36 | 0 43 | 0 50 | 0 57 | 6 48 |     |
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| 5 15 | 0 55 | 0 51 | 0 47 | 0 42 | 0 37 | 0 32 | 0 27 | 0 22 | 0 16 | 0 10 | om   | om   | 0 8  | 0 15 | 0 22 | 0 29 | 6 45 |     |
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| 5 17 | 1 14 | 1 10 | 1 6  | 1 1  | 0 56 | 0 51 | 0 46 | 0 41 | 0 35 | 0 29 | 0 23 | 0 17 | 0 11 | om   | om   | 0 10 | 6 43 |     |
| 5 18 | 1 24 | 1 20 | 1 16 | 1 11 | 1 6  | 1 1  | 0 56 | 0 51 | 0 45 | 0 39 | 0 33 | 0 27 | 0 21 | 0 14 | 0 7  | om   | 6 42 |     |
| 5 19 | 1 33 | 1 29 | 1 25 | 1 20 | 1 15 | 1 10 | 1 5  | 0 54 | 0 48 | 0 42 | 0 36 | 0 30 | 0 23 | 0 16 | 0 9  | 6 41 | 6 41 |     |
| 5 20 | 1 41 | 1 37 | 1 33 | 1 30 | 1 25 | 1 20 | 1 15 | 1 10 | 1 4  | 0 58 | 0 52 | 0 46 | 0 40 | 0 33 | 0 26 | 0 19 | 6 40 |     |
| 5 21 | 1 51 | 1 47 | 1 43 | 1 40 | 1 35 | 1 30 | 1 25 | 1 20 | 1 14 | 1 8  | 1 2  | 0 56 | 0 50 | 0 43 | 0 36 | 0 29 | 6 39 |     |
| 5 22 | 2 1  | 1 58 | 1 54 | 1 49 | 1 44 | 1 39 | 1 34 | 1 29 | 1 23 | 1 17 | 1 11 | 1 5  | 0 59 | 0 52 | 0 45 | 0 38 | 6 38 |     |
| 5 23 | 2 12 | 2 8  | 2 4  | 1 59 | 1 54 | 1 49 | 1 44 | 1 39 | 1 33 | 1 27 | 1 21 | 1 15 | 1 9  | 1 2  | 0 55 | 0 48 | 6 37 |     |
| 5 24 | 2 22 | 2 18 | 2 14 | 2 9  | 2 4  | 1 59 | 1 54 | 1 49 | 1 43 | 1 37 | 1 31 | 1 25 | 1 19 | 1 12 | 1 5  | 0 50 | 6 36 |     |
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|      | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |      |     |
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| 0   | 5 | 5 | 5 | 5 | 5 | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 0   |
| 1   | 2 | 2 | 2 | 2 | 2 | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 1   |
| 2   | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0   |
| 3   | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 4   | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 5   | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 6   | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 7   | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 8   | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 9   | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 10  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 11  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 12  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 13  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 14  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 15  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 16  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 17  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 18  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 19  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 20  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 21  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 22  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 23  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 24  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 25  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 26  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 27  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 28  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 29  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| 30  | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
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| Arg. | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | Arg.   |
| 1 15 | 4 39 | 4 48 | 4 57 | 5 6  | 5 15 | 5 24 | 5 34 | 5 43 | 5 52 | 6 2  | 6 12 | 6 22 | 6 31 | 6 42 | 6 52 | 7 1  | 10 15  |
| 1 16 | 4 40 | 4 50 | 5 0  | 5 11 | 5 22 | 5 32 | 5 41 | 5 50 | 6 0  | 6 10 | 6 20 | 6 30 | 6 40 | 6 50 | 7 0  | 7 10 | 10 14  |
| 1 17 | 4 44 | 4 54 | 5 3  | 5 12 | 5 23 | 5 33 | 5 43 | 5 53 | 6 7  | 6 17 | 6 27 | 6 37 | 6 47 | 6 57 | 7 7  | 7 17 | 10 13  |
| 1 18 | 5 1  | 5 10 | 5 19 | 5 28 | 5 37 | 5 46 | 5 56 | 6 5  | 6 14 | 6 24 | 6 34 | 6 44 | 6 54 | 7 4  | 7 14 | 7 24 | 10 12  |
| 1 19 | 5 8  | 5 17 | 5 26 | 5 35 | 5 44 | 5 53 | 6 3  | 6 12 | 6 21 | 6 31 | 6 41 | 6 51 | 7 1  | 7 11 | 7 21 | 7 31 | 10 11  |
| 1 20 | 5 14 | 5 23 | 5 32 | 5 41 | 5 50 | 5 59 | 6 9  | 6 18 | 6 27 | 6 37 | 6 47 | 6 57 | 7 7  | 7 17 | 7 27 | 7 37 | 10 10  |
| 1 21 | 5 21 | 5 30 | 5 39 | 5 48 | 5 57 | 6 6  | 6 15 | 6 24 | 6 33 | 6 43 | 6 53 | 7 3  | 7 13 | 7 23 | 7 33 | 7 43 | 10 9   |
| 1 22 | 5 27 | 5 36 | 5 45 | 5 54 | 6 3  | 6 12 | 6 22 | 6 31 | 6 40 | 6 50 | 7 0  | 7 10 | 7 20 | 7 30 | 7 40 | 7 50 | 10 8   |
| 1 23 | 5 34 | 5 43 | 5 52 | 6 1  | 6 10 | 6 19 | 6 28 | 6 37 | 6 46 | 6 56 | 7 6  | 7 16 | 7 26 | 7 36 | 7 46 | 7 56 | 10 7   |
| 1 24 | 5 40 | 5 49 | 5 58 | 6 7  | 6 16 | 6 25 | 6 34 | 6 43 | 6 52 | 7 2  | 7 12 | 7 22 | 7 32 | 7 42 | 7 52 | 8 2  | 10 6   |
| 1 25 | 5 46 | 5 55 | 6 4  | 6 13 | 6 22 | 6 31 | 6 40 | 6 49 | 6 58 | 7 8  | 7 18 | 7 28 | 7 38 | 7 48 | 7 58 | 8 8  | 10 5   |
| 1 26 | 5 52 | 6 0  | 6 9  | 6 18 | 6 27 | 6 36 | 6 45 | 6 54 | 7 3  | 7 13 | 7 23 | 7 33 | 7 43 | 7 53 | 8 3  | 8 13 | 10 4   |
| 1 27 | 5 57 | 6 6  | 6 15 | 6 24 | 6 33 | 6 42 | 6 51 | 7 0  | 7 9  | 7 19 | 7 29 | 7 39 | 7 49 | 7 59 | 8 9  | 8 19 | 10 3   |
| 1 28 | 6 3  | 6 11 | 6 20 | 6 29 | 6 38 | 6 47 | 6 56 | 7 5  | 7 14 | 7 24 | 7 34 | 7 44 | 7 54 | 8 4  | 8 14 | 8 24 | 10 2   |
| 1 29 | 6 9  | 6 17 | 6 26 | 6 35 | 6 44 | 6 53 | 7 2  | 7 11 | 7 20 | 7 30 | 7 39 | 7 49 | 7 59 | 8 9  | 8 19 | 8 29 | 10 1   |
| 2 0  | 6 14 | 6 22 | 6 31 | 6 40 | 6 49 | 6 58 | 7 7  | 7 16 | 7 25 | 7 35 | 7 44 | 7 54 | 8 4  | 8 14 | 8 24 | 8 34 | 10 0   |
| 2 1  | 6 19 | 6 27 | 6 36 | 6 45 | 6 54 | 7 3  | 7 12 | 7 21 | 7 30 | 7 40 | 7 49 | 7 59 | 8 9  | 8 19 | 8 29 | 8 39 | 9 29   |
| 2 2  | 6 24 | 6 32 | 6 41 | 6 50 | 6 59 | 7 8  | 7 17 | 7 26 | 7 35 | 7 44 | 7 54 | 8 1  | 8 11 | 8 21 | 8 31 | 8 41 | 9 28   |
| 2 3  | 6 28 | 6 36 | 6 45 | 6 54 | 7 3  | 7 12 | 7 21 | 7 30 | 7 39 | 7 49 | 7 59 | 8 9  | 8 19 | 8 29 | 8 39 | 8 49 | 9 27   |
| 2 4  | 6 33 | 6 41 | 6 50 | 6 59 | 7 8  | 7 17 | 7 26 | 7 35 | 7 44 | 7 54 | 8 2  | 8 12 | 8 22 | 8 32 | 8 42 | 8 52 | 9 26   |
| 2 5  | 6 38 | 6 46 | 6 55 | 7 4  | 7 13 | 7 22 | 7 31 | 7 40 | 7 49 | 7 59 | 8 7  | 8 17 | 8 27 | 8 37 | 8 47 | 8 57 | 9 25   |
| 2 6  | 6 43 | 6 50 | 6 59 | 7 8  | 7 17 | 7 26 | 7 35 | 7 44 | 7 54 | 8 2  | 8 11 | 8 21 | 8 31 | 8 41 | 8 51 | 9 1  | 9 24   |
| 2 7  | 6 48 | 6 56 | 7 3  | 7 12 | 7 21 | 7 30 | 7 39 | 7 48 | 7 57 | 8 6  | 8 15 | 8 25 | 8 35 | 8 45 | 8 55 | 9 5  | 9 23   |
| 2 8  | 6 50 | 6 58 | 7 7  | 7 16 | 7 25 | 7 34 | 7 43 | 7 52 | 8 1  | 8 10 | 8 19 | 8 29 | 8 39 | 8 49 | 8 59 | 9 8  | 9 22   |
| 2 9  | 6 51 | 7 1  | 7 10 | 7 19 | 7 28 | 7 37 | 7 46 | 7 55 | 8 4  | 8 13 | 8 22 | 8 32 | 8 42 | 8 52 | 9 2  | 9 12 | 9 21   |
| 2 10 | 6 57 | 7 5  | 7 14 | 7 23 | 7 32 | 7 41 | 7 50 | 7 59 | 8 8  | 8 17 | 8 26 | 8 36 | 8 46 | 8 56 | 9 5  | 9 15 | 9 20   |
| 2 11 | 7 1  | 7 9  | 7 18 | 7 27 | 7 36 | 7 45 | 7 54 | 8 3  | 8 12 | 8 21 | 8 30 | 8 40 | 8 50 | 9 0  | 9 10 | 9 19 | 9 19   |
| 2 12 | 7 4  | 7 12 | 7 21 | 7 30 | 7 39 | 7 48 | 7 57 | 8 6  | 8 15 | 8 24 | 8 33 | 8 43 | 8 53 | 9 2  | 9 12 | 9 22 | 9 18   |
| 2 13 | 7 7  | 7 15 | 7 24 | 7 33 | 7 42 | 7 51 | 8 0  | 8 9  | 8 18 | 8 27 | 8 36 | 8 46 | 8 56 | 9 5  | 9 15 | 9 25 | 9 17   |
| 2 14 | 7 10 | 7 18 | 7 27 | 7 36 | 7 44 | 7 53 | 8 2  | 8 11 | 8 20 | 8 29 | 8 38 | 8 48 | 8 58 | 9 7  | 9 17 | 9 27 | 9 16   |
| 2 15 | 7 12 | 7 20 | 7 29 | 7 38 | 7 47 | 7 56 | 8 5  | 8 14 | 8 23 | 8 32 | 8 41 | 8 50 | 9 0  | 9 9  | 9 19 | 9 29 | 9 15   |
| 2 16 | 7 15 | 7 23 | 7 32 | 7 41 | 7 49 | 7 58 | 8 7  | 8 16 | 8 25 | 8 34 | 8 43 | 8 53 | 9 3  | 9 12 | 9 22 | 9 32 | 9 14   |
| 2 17 | 7 18 | 7 26 | 7 35 | 7 44 | 7 52 | 8 1  | 8 10 | 8 19 | 8 28 | 8 37 | 8 46 | 8 56 | 9 5  | 9 14 | 9 24 | 9 34 | 9 13   |
| 2 18 | 7 20 | 7 28 | 7 37 | 7 46 | 7 54 | 8 3  | 8 12 | 8 21 | 8 30 | 8 39 | 8 48 | 8 57 | 9 7  | 9 16 | 9 26 | 9 36 | 9 12   |
| 2 19 | 7 22 | 7 30 | 7 39 | 7 48 | 7 56 | 8 5  | 8 14 | 8 23 | 8 32 | 8 41 | 8 50 | 8 59 | 9 9  | 9 18 | 9 28 | 9 38 | 9 11   |
| 2 20 | 7 24 | 7 32 | 7 40 | 7 49 | 7 57 | 8 6  | 8 15 | 8 24 | 8 33 | 8 42 | 8 51 | 9 0  | 9 10 | 9 19 | 9 29 | 9 39 | 9 10   |
| 2 21 | 7 25 | 7 33 | 7 42 | 7 51 | 7 59 | 8 8  | 8 17 | 8 26 | 8 35 | 8 44 | 8 53 | 9 1  | 9 11 | 9 20 | 9 30 | 9 40 | 9 9    |
| 2 22 | 7 27 | 7 35 | 7 44 | 7 52 | 8 0  | 8 9  | 8 18 | 8 27 | 8 36 | 8 45 | 8 54 | 9 3  | 9 13 | 9 22 | 9 32 | 9 42 | 9 8    |
| 2 23 | 7 29 | 7 37 | 7 45 | 7 54 | 8 2  | 8 11 | 8 20 | 8 29 | 8 38 | 8 47 | 8 56 | 9 4  | 9 14 | 9 23 | 9 33 | 9 43 | 9 7    |
| 2 24 | 7 30 | 7 38 | 7 46 | 7 55 | 8 3  | 8 12 | 8 21 | 8 30 | 8 39 | 8 48 | 8 57 | 9 5  | 9 15 | 9 24 | 9 34 | 9 44 | 9 6    |
| 2 25 | 7 31 | 7 39 | 7 47 | 7 56 | 8 4  | 8 13 | 8 22 | 8 31 | 8 40 | 8 49 | 8 58 | 9 6  | 9 16 | 9 25 | 9 35 | 9 45 | 9 5    |
| 2 26 | 7 33 | 7 41 | 7 49 | 7 58 | 8 5  | 8 14 | 8 23 | 8 32 | 8 41 | 8 50 | 8 59 | 9 7  | 9 17 | 9 26 | 9 36 | 9 46 | 9 4    |
| 2 27 | 7 32 | 7 40 | 7 48 | 7 57 | 8 5  | 8 14 | 8 23 | 8 32 | 8 41 | 8 50 | 8 59 | 9 7  | 9 16 | 9 25 | 9 34 | 9 44 | 9 3    |
| 2 28 | 7 32 | 7 40 | 7 48 | 7 57 | 8 5  | 8 14 | 8 23 | 8 32 | 8 41 | 8 50 | 8 59 | 9 7  | 9 16 | 9 25 | 9 34 | 9 44 | 9 2    |
| 2 29 | 7 32 | 7 40 | 7 48 | 7 57 | 8 5  | 8 14 | 8 23 | 8 32 | 8 41 | 8 50 | 8 59 | 9 7  | 9 16 | 9 25 | 9 34 | 9 44 | 9 1    |
| 3 0  | 7 32 | 7 40 | 7 48 | 7 57 | 8 5  | 8 14 | 8 23 | 8 32 | 8 41 | 8 50 | 8 59 | 9 7  | 9 16 | 9 25 | 9 34 | 9 44 | 9 0    |
|      | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  |        |
|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |        |
|      | 30   | 28   | 26   | 24   | 22   | 20   | 18   | 16   | 14   | 12   | 10   | 8    | 6    | 4    | 2    | 0    |        |

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# Tabula Distantie Nere Coniunctionis

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Argumenti Solis

| Sta               |      | Argumenti Solis |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                   |  |                   |  |  |  |  |  | Sta |  |
|-------------------|------|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------------------|--|-------------------|--|--|--|--|--|-----|--|
| Gra <sup>us</sup> |      | 0               | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | Gra <sup>us</sup> |  | Gra <sup>us</sup> |  |  |  |  |  |     |  |
| Gra <sup>us</sup> |      | 0               | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | Gra <sup>us</sup> |  | Gra <sup>us</sup> |  |  |  |  |  |     |  |
| 0                 | 7 32 | 7 40            | 7 48 | 7 57 | 8 5  | 8 14 | 8 23 | 8 31 | 8 40 | 8 49 | 8 58 | 9 7  | 9 16 | 9 25 | 9 34 | 9 44 | 9 54 | 10 3              |  | 10 12             |  |  |  |  |  |     |  |
| 1                 | 7 31 | 7 39            | 7 48 | 7 57 | 8 5  | 8 14 | 8 23 | 8 31 | 8 40 | 8 49 | 8 57 | 9 6  | 9 15 | 9 24 | 9 33 | 9 43 | 9 53 | 10 2              |  | 10 11             |  |  |  |  |  |     |  |
| 2                 | 7 31 | 7 39            | 7 47 | 7 56 | 8 4  | 8 13 | 8 22 | 8 30 | 8 39 | 8 48 | 8 56 | 9 5  | 9 14 | 9 23 | 9 32 | 9 42 | 9 52 | 10 1              |  | 10 10             |  |  |  |  |  |     |  |
| 3                 | 7 31 | 7 39            | 7 47 | 7 56 | 8 4  | 8 12 | 8 21 | 8 30 | 8 38 | 8 47 | 8 55 | 9 4  | 9 13 | 9 22 | 9 31 | 9 41 | 9 51 | 10 0              |  | 10 9              |  |  |  |  |  |     |  |
| 4                 | 7 30 | 7 38            | 7 46 | 7 55 | 8 3  | 8 11 | 8 20 | 8 28 | 8 37 | 8 46 | 8 54 | 9 3  | 9 12 | 9 21 | 9 30 | 9 40 | 9 50 | 9 59              |  | 10 8              |  |  |  |  |  |     |  |
| 5                 | 7 29 | 7 37            | 7 45 | 7 54 | 8 2  | 8 10 | 8 19 | 8 27 | 8 36 | 8 45 | 8 53 | 9 2  | 9 11 | 9 20 | 9 29 | 9 39 | 9 48 | 9 58              |  | 10 7              |  |  |  |  |  |     |  |
| 6                 | 7 28 | 7 36            | 7 44 | 7 53 | 8 1  | 8 9  | 8 18 | 8 26 | 8 35 | 8 44 | 8 52 | 9 1  | 9 10 | 9 19 | 9 28 | 9 37 | 9 47 | 9 57              |  | 10 6              |  |  |  |  |  |     |  |
| 7                 | 7 27 | 7 35            | 7 43 | 7 52 | 8 0  | 8 8  | 8 17 | 8 24 | 8 34 | 8 43 | 8 51 | 9 0  | 9 9  | 9 18 | 9 27 | 9 36 | 9 46 | 9 56              |  | 10 5              |  |  |  |  |  |     |  |
| 8                 | 7 25 | 7 33            | 7 41 | 7 50 | 7 58 | 8 6  | 8 15 | 8 23 | 8 32 | 8 41 | 8 49 | 8 58 | 9 7  | 9 16 | 9 25 | 9 34 | 9 44 | 9 54              |  | 10 4              |  |  |  |  |  |     |  |
| 9                 | 7 24 | 7 32            | 7 40 | 7 48 | 7 56 | 8 4  | 8 13 | 8 21 | 8 30 | 8 39 | 8 47 | 8 56 | 9 5  | 9 14 | 9 23 | 9 33 | 9 42 | 9 52              |  | 10 3              |  |  |  |  |  |     |  |
| 10                | 7 22 | 7 30            | 7 38 | 7 47 | 7 55 | 8 3  | 8 12 | 8 20 | 8 28 | 8 37 | 8 46 | 8 55 | 9 4  | 9 13 | 9 22 | 9 31 | 9 41 | 9 51              |  | 10 2              |  |  |  |  |  |     |  |
| 11                | 7 21 | 7 29            | 7 37 | 7 45 | 7 54 | 8 1  | 8 10 | 8 18 | 8 26 | 8 35 | 8 44 | 8 53 | 9 2  | 9 11 | 9 20 | 9 30 | 9 39 | 9 49              |  | 10 1              |  |  |  |  |  |     |  |
| 12                | 7 19 | 7 27            | 7 35 | 7 44 | 7 52 | 7 51 | 7 59 | 8 6  | 8 16 | 8 24 | 8 33 | 8 42 | 8 51 | 9 0  | 9 9  | 9 18 | 9 28 | 9 38              |  | 10 0              |  |  |  |  |  |     |  |
| 13                | 7 17 | 7 25            | 7 33 | 7 41 | 7 49 | 7 57 | 8 6  | 8 14 | 8 22 | 8 31 | 8 40 | 8 49 | 8 58 | 9 7  | 9 16 | 9 25 | 9 34 | 9 44              |  | 9 54              |  |  |  |  |  |     |  |
| 14                | 7 14 | 7 22            | 7 30 | 7 38 | 7 46 | 7 54 | 8 3  | 8 11 | 8 19 | 8 28 | 8 37 | 8 46 | 8 55 | 9 4  | 9 13 | 9 22 | 9 31 | 9 41              |  | 9 51              |  |  |  |  |  |     |  |
| 15                | 7 11 | 7 19            | 7 27 | 7 35 | 7 43 | 7 51 | 8 0  | 8 8  | 8 16 | 8 25 | 8 34 | 8 43 | 8 52 | 9 1  | 9 10 | 9 20 | 9 29 | 9 39              |  | 9 49              |  |  |  |  |  |     |  |
| 16                | 7 9  | 7 17            | 7 25 | 7 33 | 7 41 | 7 49 | 7 58 | 8 6  | 8 14 | 8 23 | 8 31 | 8 40 | 8 50 | 8 59 | 9 8  | 9 17 | 9 26 | 9 36              |  | 9 46              |  |  |  |  |  |     |  |
| 17                | 7 6  | 7 14            | 7 22 | 7 30 | 7 38 | 7 46 | 7 55 | 8 3  | 8 11 | 8 20 | 8 28 | 8 37 | 8 47 | 8 56 | 9 5  | 9 14 | 9 23 | 9 33              |  | 9 43              |  |  |  |  |  |     |  |
| 18                | 7 3  | 7 11            | 7 19 | 7 27 | 7 35 | 7 43 | 7 52 | 8 0  | 8 8  | 8 17 | 8 25 | 8 34 | 8 44 | 8 53 | 9 2  | 9 11 | 9 20 | 9 30              |  | 9 40              |  |  |  |  |  |     |  |
| 19                | 7 0  | 7 8             | 7 16 | 7 24 | 7 32 | 7 40 | 7 49 | 7 57 | 8 5  | 8 14 | 8 22 | 8 31 | 8 40 | 8 49 | 8 58 | 9 7  | 9 16 | 9 26              |  | 9 36              |  |  |  |  |  |     |  |
| 20                | 6 56 | 7 4             | 7 12 | 7 20 | 7 28 | 7 36 | 7 45 | 7 53 | 8 1  | 8 10 | 8 18 | 8 27 | 8 36 | 8 45 | 8 54 | 9 3  | 9 12 | 9 22              |  | 9 32              |  |  |  |  |  |     |  |
| 21                | 6 52 | 7 0             | 7 8  | 7 16 | 7 24 | 7 32 | 7 41 | 7 49 | 7 57 | 8 5  | 8 14 | 8 23 | 8 32 | 8 41 | 8 50 | 8 59 | 9 8  | 9 18              |  | 9 28              |  |  |  |  |  |     |  |
| 22                | 6 49 | 6 57            | 7 5  | 7 13 | 7 21 | 7 29 | 7 37 | 7 45 | 7 53 | 8 2  | 8 10 | 8 19 | 8 28 | 8 37 | 8 46 | 8 55 | 9 4  | 9 14              |  | 9 24              |  |  |  |  |  |     |  |
| 23                | 6 45 | 6 53            | 7 1  | 7 9  | 7 17 | 7 25 | 7 33 | 7 41 | 7 49 | 7 58 | 8 6  | 8 15 | 8 24 | 8 33 | 8 42 | 8 51 | 9 7  | 9 17              |  | 9 27              |  |  |  |  |  |     |  |
| 24                | 6 41 | 6 49            | 6 57 | 7 5  | 7 13 | 7 21 | 7 29 | 7 37 | 7 45 | 7 54 | 8 2  | 8 11 | 8 20 | 8 29 | 8 38 | 8 47 | 8 56 | 9 26              |  | 9 36              |  |  |  |  |  |     |  |
| 25                | 6 37 | 6 45            | 6 53 | 7 1  | 7 9  | 7 17 | 7 25 | 7 33 | 7 41 | 7 50 | 7 58 | 8 7  | 8 16 | 8 25 | 8 34 | 8 43 | 8 52 | 9 32              |  | 9 42              |  |  |  |  |  |     |  |
| 26                | 6 32 | 6 40            | 6 48 | 6 56 | 7 4  | 7 12 | 7 20 | 7 28 | 7 36 | 7 45 | 7 53 | 8 2  | 8 11 | 8 20 | 8 29 | 8 38 | 8 47 | 9 37              |  | 9 47              |  |  |  |  |  |     |  |
| 27                | 6 27 | 6 35            | 6 43 | 6 51 | 6 59 | 7 7  | 7 15 | 7 23 | 7 31 | 7 40 | 7 48 | 7 57 | 8 6  | 8 15 | 8 24 | 8 33 | 8 42 | 9 42              |  | 9 52              |  |  |  |  |  |     |  |
| 28                | 6 23 | 6 31            | 6 39 | 6 47 | 6 55 | 7 3  | 7 11 | 7 19 | 7 27 | 7 35 | 7 43 | 7 52 | 8 1  | 8 10 | 8 19 | 8 28 | 8 37 | 9 47              |  | 9 57              |  |  |  |  |  |     |  |
| 29                | 6 18 | 6 26            | 6 34 | 6 42 | 6 50 | 6 58 | 7 6  | 7 14 | 7 22 | 7 30 | 7 38 | 7 47 | 7 56 | 8 5  | 8 14 | 8 23 | 8 32 | 9 52              |  | 10 0              |  |  |  |  |  |     |  |
| 30                | 6 13 | 6 21            | 6 29 | 6 37 | 6 45 | 6 53 | 7 1  | 7 9  | 7 17 | 7 25 | 7 33 | 7 42 | 7 51 | 8 0  | 8 9  | 8 18 | 8 27 | 10 0              |  | 10 10             |  |  |  |  |  |     |  |
| 31                | 6 8  | 6 16            | 6 24 | 6 32 | 6 40 | 6 48 | 6 56 | 7 4  | 7 12 | 7 20 | 7 28 | 7 37 | 7 46 | 7 55 | 8 4  | 8 13 | 8 22 | 10 1              |  | 10 11             |  |  |  |  |  |     |  |
| 32                | 6 2  | 6 10            | 6 18 | 6 26 | 6 34 | 6 42 | 6 50 | 6 58 | 7 6  | 7 14 | 7 22 | 7 31 | 7 40 | 7 49 | 7 58 | 8 7  | 8 16 | 10 2              |  | 10 12             |  |  |  |  |  |     |  |
| 33                | 5 57 | 6 4             | 6 12 | 6 20 | 6 28 | 6 36 | 6 44 | 6 52 | 7 0  | 7 8  | 7 16 | 7 25 | 7 34 | 7 43 | 7 52 | 8 1  | 8 10 | 10 3              |  | 10 13             |  |  |  |  |  |     |  |
| 34                | 5 51 | 5 59            | 6 7  | 6 15 | 6 23 | 6 31 | 6 39 | 6 47 | 6 55 | 7 3  | 7 11 | 7 20 | 7 29 | 7 38 | 7 47 | 7 56 | 8 5  | 10 4              |  | 10 14             |  |  |  |  |  |     |  |
| 35                | 5 46 | 5 53            | 6 1  | 6 9  | 6 17 | 6 25 | 6 33 | 6 41 | 6 49 | 6 57 | 7 5  | 7 14 | 7 23 | 7 32 | 7 41 | 7 50 | 7 59 | 10 5              |  | 10 15             |  |  |  |  |  |     |  |
| 36                | 5 40 | 5 47            | 5 55 | 6 3  | 6 11 | 6 19 | 6 27 | 6 35 | 6 43 | 6 51 | 6 59 | 7 8  | 7 17 | 7 26 | 7 35 | 7 44 | 7 53 | 10 6              |  | 10 16             |  |  |  |  |  |     |  |
| 37                | 5 34 | 5 41            | 5 49 | 5 57 | 6 5  | 6 13 | 6 21 | 6 29 | 6 37 | 6 45 | 6 53 | 7 2  | 7 11 | 7 20 | 7 29 | 7 38 | 7 47 | 10 7              |  | 10 17             |  |  |  |  |  |     |  |
| 38                | 5 28 | 5 35            | 5 43 | 5 51 | 5 59 | 6 7  | 6 15 | 6 23 | 6 31 | 6 39 | 6 47 | 6 56 | 7 5  | 7 14 | 7 23 | 7 32 | 7 41 | 10 8              |  | 10 18             |  |  |  |  |  |     |  |
| 39                | 5 22 | 5 29            | 5 37 | 5 45 | 5 52 | 6 0  | 6 8  | 6 16 | 6 24 | 6 32 | 6 40 | 6 49 | 6 58 | 7 7  | 7 16 | 7 25 | 7 34 | 10 9              |  | 10 19             |  |  |  |  |  |     |  |
| 40                | 5 16 | 5 23            | 5 31 | 5 39 | 5 46 | 5 54 | 6 2  | 6 10 | 6 18 | 6 26 | 6 34 | 6 43 | 6 52 | 7 0  | 7 9  | 7 18 | 7 27 | 10 10             |  | 10 20             |  |  |  |  |  |     |  |
| 41                | 5 8  | 5 17            | 5 25 | 5 33 | 5 40 | 5 48 | 5 56 | 6 4  | 6 12 | 6 20 | 6 28 | 6 37 | 6 46 | 6 54 | 7 1  | 7 12 | 7 21 | 10 11             |  | 10 21             |  |  |  |  |  |     |  |
| 42                | 5 3  | 5 10            | 5 18 | 5 26 | 5 33 | 5 41 | 5 49 | 5 57 | 6 5  | 6 13 | 6 21 | 6 30 | 6 39 | 6 47 | 6 56 | 7 5  | 7 15 | 10 12             |  | 10 22             |  |  |  |  |  |     |  |
| 43                | 4 56 | 5 3             | 5 11 | 5 19 | 5 26 | 5 34 | 5 42 | 5 50 | 5 58 | 6 6  | 6 14 | 6 23 | 6 32 | 6 40 | 6 49 | 6 58 | 7 17 | 10 13             |  | 10 23             |  |  |  |  |  |     |  |
| 44                | 4 49 | 4 56            | 5 4  | 5 12 | 5 20 | 5 27 | 5 35 | 5 43 | 5 51 | 5 59 | 6 7  | 6 16 | 6 25 | 6 33 | 6 42 | 6 51 | 7 6  | 10 14             |  | 10 24             |  |  |  |  |  |     |  |
| 45                | 4 42 | 4 49            | 4 57 | 5 5  | 5 12 | 5 20 | 5 28 | 5 36 | 5 44 | 5 52 | 6 0  | 6 9  | 6 18 | 6 26 | 6 35 | 6 44 | 7 15 | 10 15             |  | 10 25             |  |  |  |  |  |     |  |
|                   | (1)  | (1)             | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | (1)  | 10 16             |  | 10 26             |  |  |  |  |  |     |  |
| Sta               | 30   | 28              | 26   | 24   | 22   | 20   | 18   | 16   | 14   | 12   | 10   | 8    | 6    | 4    | 2    | 0    | due  | 10 17             |  | 10 27             |  |  |  |  |  |     |  |

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| Sta    | 0    | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | das    | Sta |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|-----|
| Orbita | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | Orbita |     |
| Orbita | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | 5 m  | Orbita |     |
| 4 15   | 4 42 | 4 44 | 4 57 | 5 5  | 5 12 | 5 20 | 5 28 | 5 36 | 5 44 | 5 52 | 6 0  | 6 9  | 6 18 | 6 26 | 6 35 | 6 44 | 7 15   |     |
| 4 16   | 4 35 | 4 42 | 4 50 | 4 58 | 5 5  | 5 11 | 5 21 | 5 29 | 5 37 | 5 45 | 5 53 | 6 2  | 6 11 | 6 19 | 6 28 | 6 37 | 7 14   |     |
| 4 17   | 4 28 | 4 35 | 4 41 | 4 51 | 4 58 | 5 6  | 5 14 | 5 22 | 5 30 | 5 38 | 5 46 | 5 55 | 6 4  | 6 12 | 6 21 | 6 30 | 7 13   |     |
| 4 18   | 4 20 | 4 27 | 4 35 | 4 43 | 4 51 | 4 59 | 5 7  | 5 15 | 5 23 | 5 31 | 5 39 | 5 47 | 5 56 | 6 4  | 6 13 | 6 22 | 7 12   |     |
| 4 19   | 4 13 | 4 20 | 4 28 | 4 36 | 4 44 | 4 52 | 5 0  | 5 8  | 5 16 | 5 24 | 5 32 | 5 40 | 5 49 | 5 57 | 6 6  | 6 15 | 7 11   |     |
| 4 20   | 4 5  | 4 12 | 4 20 | 4 28 | 4 36 | 4 44 | 4 52 | 5 0  | 5 8  | 5 16 | 5 24 | 5 32 | 5 41 | 5 49 | 5 58 | 6 7  | 7 10   |     |
| 4 21   | 3 57 | 4 4  | 4 12 | 4 20 | 4 28 | 4 36 | 4 44 | 4 52 | 5 0  | 5 8  | 5 16 | 5 24 | 5 33 | 5 41 | 5 50 | 5 59 | 7 9    |     |
| 4 22   | 3 50 | 3 57 | 4 5  | 4 13 | 4 20 | 4 28 | 4 36 | 4 44 | 4 52 | 5 0  | 5 8  | 5 16 | 5 25 | 5 33 | 5 42 | 5 51 | 7 8    |     |
| 4 23   | 3 42 | 3 49 | 3 57 | 4 5  | 4 12 | 4 20 | 4 28 | 4 36 | 4 44 | 4 52 | 5 0  | 5 8  | 5 17 | 5 25 | 5 34 | 5 43 | 7 7    |     |
| 4 24   | 3 34 | 3 41 | 3 49 | 3 57 | 4 4  | 4 12 | 4 20 | 4 28 | 4 36 | 4 44 | 4 52 | 5 0  | 5 9  | 5 17 | 5 26 | 5 35 | 7 6    |     |
| 4 25   | 3 26 | 3 33 | 3 41 | 3 49 | 3 56 | 4 4  | 4 12 | 4 20 | 4 28 | 4 36 | 4 44 | 4 52 | 5 11 | 5 9  | 5 18 | 5 27 | 7 5    |     |
| 4 26   | 3 18 | 3 25 | 3 33 | 3 41 | 3 48 | 3 56 | 4 4  | 4 12 | 4 20 | 4 28 | 4 36 | 4 44 | 4 53 | 5 11 | 5 9  | 5 18 | 7 4    |     |
| 4 27   | 3 10 | 3 17 | 3 24 | 3 32 | 3 39 | 3 47 | 3 55 | 4 3  | 4 11 | 4 19 | 4 27 | 4 35 | 4 44 | 4 52 | 5 11 | 5 10 | 7 3    |     |
| 4 28   | 3 2  | 3 9  | 3 16 | 3 24 | 3 31 | 3 39 | 3 47 | 3 55 | 4 3  | 4 11 | 4 19 | 4 27 | 4 36 | 4 44 | 4 52 | 5 11 | 7 2    |     |
| 4 29   | 2 54 | 3 1  | 3 8  | 3 16 | 3 23 | 3 31 | 3 39 | 3 47 | 3 55 | 4 3  | 4 11 | 4 19 | 4 28 | 4 36 | 4 44 | 4 53 | 7 1    |     |
| 5 0    | 2 47 | 2 54 | 2 59 | 3 7  | 3 14 | 3 22 | 3 30 | 3 38 | 3 46 | 3 54 | 4 2  | 4 10 | 4 19 | 4 27 | 4 35 | 4 44 | 7 0    |     |
| 5 1    | 2 37 | 2 44 | 2 51 | 2 59 | 3 6  | 3 14 | 3 22 | 3 30 | 3 38 | 3 46 | 3 54 | 4 2  | 4 11 | 4 19 | 4 27 | 4 36 | 6 59   |     |
| 5 2    | 2 28 | 2 35 | 2 42 | 2 50 | 2 57 | 3 5  | 3 13 | 3 21 | 3 29 | 3 37 | 3 45 | 3 53 | 4 2  | 4 10 | 4 18 | 4 27 | 6 58   |     |
| 5 3    | 2 19 | 2 26 | 2 33 | 2 41 | 2 48 | 2 56 | 3 4  | 3 12 | 3 20 | 3 28 | 3 36 | 3 44 | 3 53 | 4 1  | 4 9  | 4 18 | 6 57   |     |
| 5 4    | 2 10 | 2 17 | 2 24 | 2 32 | 2 39 | 2 47 | 2 55 | 3 3  | 3 11 | 3 19 | 3 27 | 3 35 | 3 44 | 3 52 | 4 0  | 4 9  | 6 56   |     |
| 5 5    | 2 1  | 2 8  | 2 15 | 2 23 | 2 30 | 2 38 | 2 46 | 2 54 | 3 2  | 3 10 | 3 18 | 3 26 | 3 35 | 3 43 | 3 51 | 4 0  | 6 55   |     |
| 5 6    | 1 52 | 1 59 | 2 6  | 2 14 | 2 21 | 2 29 | 2 37 | 2 45 | 2 53 | 3 1  | 3 9  | 3 17 | 3 26 | 3 34 | 3 42 | 3 51 | 6 54   |     |
| 5 7    | 1 43 | 1 50 | 1 57 | 2 5  | 2 12 | 2 20 | 2 28 | 2 36 | 2 44 | 2 52 | 3 0  | 3 8  | 3 17 | 3 25 | 3 33 | 3 42 | 6 53   |     |
| 5 8    | 1 34 | 1 41 | 1 48 | 1 56 | 2 3  | 2 11 | 2 19 | 2 27 | 2 35 | 2 43 | 2 51 | 2 59 | 3 8  | 3 16 | 3 24 | 3 33 | 6 52   |     |
| 5 9    | 1 25 | 1 32 | 1 39 | 1 47 | 1 54 | 2 2  | 2 10 | 2 17 | 2 25 | 2 33 | 2 41 | 2 49 | 2 58 | 3 6  | 3 14 | 3 23 | 6 51   |     |
| 5 10   | 1 16 | 1 23 | 1 30 | 1 38 | 1 45 | 1 53 | 2 1  | 2 8  | 2 16 | 2 24 | 2 32 | 2 40 | 2 49 | 2 57 | 3 5  | 3 14 | 6 50   |     |
| 5 11   | 1 7  | 1 14 | 1 21 | 1 29 | 1 36 | 1 44 | 1 52 | 1 59 | 2 7  | 2 15 | 2 23 | 2 31 | 2 40 | 2 48 | 2 56 | 3 7  | 6 49   |     |
| 5 12   | 0 57 | 1 4  | 1 11 | 1 19 | 1 26 | 1 34 | 1 42 | 1 49 | 1 57 | 2 5  | 2 13 | 2 21 | 2 30 | 2 38 | 2 46 | 2 55 | 6 48   |     |
| 5 13   | 0 48 | 0 55 | 1 2  | 1 10 | 1 17 | 1 25 | 1 33 | 1 40 | 1 47 | 1 55 | 2 4  | 2 12 | 2 21 | 2 29 | 2 37 | 2 46 | 6 47   |     |
| 5 14   | 0 38 | 0 45 | 0 52 | 1 0  | 1 7  | 1 15 | 1 23 | 1 30 | 1 38 | 1 46 | 1 54 | 2 2  | 2 11 | 2 19 | 2 27 | 2 36 | 6 46   |     |
| 5 15   | 0 29 | 0 36 | 0 43 | 0 51 | 0 59 | 1 6  | 1 14 | 1 21 | 1 29 | 1 37 | 1 45 | 1 53 | 2 2  | 2 10 | 2 18 | 2 27 | 6 45   |     |
| 5 16   | 0 19 | 0 26 | 0 33 | 0 41 | 0 48 | 0 56 | 1 4  | 1 11 | 1 19 | 1 27 | 1 35 | 1 43 | 1 52 | 2 0  | 2 8  | 2 17 | 6 44   |     |
| 5 17   | 0 10 | 0 17 | 0 24 | 0 32 | 0 39 | 0 47 | 0 55 | 1 2  | 1 10 | 1 18 | 1 26 | 1 34 | 1 43 | 1 51 | 1 59 | 2 8  | 6 43   |     |
| 5 18   | 0 0  | 0 7  | 0 14 | 0 21 | 0 29 | 0 37 | 0 45 | 0 52 | 1 0  | 1 8  | 1 16 | 1 24 | 1 33 | 1 41 | 1 49 | 1 58 | 6 42   |     |
| 5 19   | 0 9  | 0 16 | 0 23 | 0 30 | 0 38 | 0 46 | 0 54 | 0 61 | 0 69 | 0 77 | 1 7  | 1 15 | 1 24 | 1 32 | 1 40 | 1 49 | 6 41   |     |
| 5 20   | 0 19 | 0 22 | 0 25 | 0 31 | 0 38 | 0 45 | 0 52 | 0 59 | 0 67 | 0 75 | 0 83 | 0 91 | 1 00 | 1 08 | 1 16 | 1 25 | 6 40   |     |
| 5 21   | 0 29 | 0 32 | 0 35 | 0 41 | 0 48 | 0 55 | 0 62 | 0 69 | 0 77 | 0 85 | 0 93 | 1 01 | 1 10 | 1 18 | 1 26 | 1 35 | 6 39   |     |
| 5 22   | 0 38 | 0 41 | 0 44 | 0 50 | 0 57 | 0 64 | 0 71 | 0 78 | 0 86 | 0 94 | 1 02 | 1 10 | 1 19 | 1 27 | 1 35 | 1 44 | 6 38   |     |
| 5 23   | 0 48 | 0 51 | 0 54 | 0 60 | 0 67 | 0 74 | 0 81 | 0 88 | 0 96 | 1 04 | 1 12 | 1 20 | 1 29 | 1 37 | 1 45 | 1 54 | 6 37   |     |
| 5 24   | 0 58 | 1 0  | 1 3  | 0 9  | 0 16 | 0 23 | 0 30 | 0 37 | 0 45 | 0 53 | 0 61 | 0 69 | 0 78 | 0 86 | 0 94 | 1 03 | 6 36   |     |
| 5 25   | 1 7  | 1 10 | 1 13 | 1 19 | 1 26 | 1 33 | 1 40 | 1 47 | 1 55 | 2 3  | 2 11 | 2 19 | 2 28 | 2 36 | 2 44 | 2 53 | 6 35   |     |
| 5 26   | 1 17 | 1 20 | 1 23 | 1 29 | 1 36 | 1 43 | 1 50 | 1 57 | 2 5  | 2 13 | 2 21 | 2 30 | 2 38 | 2 46 | 2 55 | 3 3  | 6 34   |     |
| 5 27   | 1 27 | 1 30 | 1 33 | 1 39 | 1 46 | 1 53 | 2 0  | 2 7  | 2 15 | 2 23 | 2 31 | 2 40 | 2 48 | 2 57 | 3 5  | 3 14 | 6 33   |     |
| 5 28   | 1 37 | 1 40 | 1 43 | 1 49 | 1 56 | 2 0  | 2 7  | 2 15 | 2 23 | 2 31 | 2 40 | 2 48 | 2 57 | 3 6  | 3 15 | 3 24 | 6 32   |     |
| 5 29   | 1 47 | 1 50 | 1 53 | 1 59 | 2 0  | 2 7  | 2 15 | 2 23 | 2 31 | 2 40 | 2 48 | 2 57 | 3 6  | 3 15 | 3 24 | 3 33 | 6 31   |     |
| 6 0    | 1 57 | 2 0  | 2 3  | 2 9  | 2 16 | 2 23 | 2 30 | 2 38 | 2 46 | 2 54 | 3 2  | 3 10 | 3 19 | 3 27 | 3 36 | 3 45 | 6 30   |     |
|        | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |        |     |
|        | 30   | 28   | 26   | 24   | 22   | 20   | 18   | 16   | 14   | 12   | 10   | 8    | 6    | 4    | 2    | 0    |        |     |

Argumenti Solis

6

Signa

# Tabula Distantie Vere Coniunctionis

Digna

6

Argumenti Solis

| Sta    | 0  | 2  | 4  | 6  | 8  | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 30 | duas   |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
| Gradus | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | 5  | Gradus |
| Equino | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | Equino |
| 0      | 0  | 0  | 0  | 11 | 0  | 22 | 0  | 32 | 0  | 43 | 0  | 53 | 1  | 3  | 1  | 13 | 12     |
| 1      | 0  | 11 | 0  | 22 | 0  | 33 | 0  | 44 | 0  | 54 | 1  | 4  | 1  | 14 | 1  | 14 | 11     |
| 2      | 0  | 22 | 0  | 33 | 0  | 44 | 0  | 55 | 1  | 4  | 1  | 14 | 1  | 14 | 1  | 14 | 11     |
| 3      | 0  | 33 | 0  | 44 | 0  | 55 | 1  | 4  | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 4      | 0  | 44 | 0  | 55 | 1  | 4  | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 5      | 0  | 55 | 1  | 4  | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 6      | 1  | 4  | 1  | 14 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 7      | 1  | 14 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 8      | 1  | 24 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 9      | 1  | 34 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 10     | 1  | 45 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 11     | 1  | 55 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 12     | 2  | 5  | 1  | 16 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 13     | 2  | 16 | 1  | 16 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 14     | 2  | 26 | 1  | 16 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 15     | 2  | 36 | 1  | 16 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 16     | 2  | 46 | 1  | 16 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 17     | 2  | 56 | 1  | 16 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 18     | 3  | 6  | 1  | 17 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 19     | 3  | 16 | 1  | 17 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 20     | 3  | 26 | 1  | 17 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 21     | 3  | 36 | 1  | 17 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 22     | 3  | 46 | 1  | 17 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 23     | 3  | 56 | 1  | 17 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 24     | 4  | 5  | 1  | 18 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 25     | 4  | 15 | 1  | 18 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 26     | 4  | 25 | 1  | 18 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 27     | 4  | 35 | 1  | 18 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 28     | 4  | 45 | 1  | 18 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 29     | 4  | 55 | 1  | 18 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 30     | 5  | 5  | 1  | 19 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 1      | 5  | 15 | 1  | 19 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 2      | 5  | 25 | 1  | 19 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 3      | 5  | 35 | 1  | 19 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 4      | 5  | 45 | 1  | 19 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 5      | 5  | 55 | 1  | 19 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 6      | 6  | 5  | 1  | 20 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 7      | 6  | 15 | 1  | 20 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 8      | 6  | 25 | 1  | 20 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 9      | 6  | 35 | 1  | 20 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 10     | 6  | 45 | 1  | 20 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 11     | 6  | 55 | 1  | 20 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 12     | 7  | 5  | 1  | 21 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 13     | 7  | 15 | 1  | 21 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 14     | 7  | 25 | 1  | 21 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 15     | 7  | 35 | 1  | 21 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 16     | 7  | 45 | 1  | 21 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 17     | 7  | 55 | 1  | 21 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 18     | 8  | 5  | 1  | 22 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 19     | 8  | 15 | 1  | 22 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 20     | 8  | 25 | 1  | 22 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 21     | 8  | 35 | 1  | 22 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 22     | 8  | 45 | 1  | 22 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 23     | 8  | 55 | 1  | 22 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 24     | 9  | 5  | 1  | 23 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 25     | 9  | 15 | 1  | 23 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 26     | 9  | 25 | 1  | 23 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 27     | 9  | 35 | 1  | 23 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 28     | 9  | 45 | 1  | 23 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 29     | 9  | 55 | 1  | 23 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 30     | 10 | 5  | 1  | 24 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 1      | 10 | 15 | 1  | 24 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 2      | 10 | 25 | 1  | 24 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 3      | 10 | 35 | 1  | 24 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 4      | 10 | 45 | 1  | 24 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 5      | 10 | 55 | 1  | 24 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 6      | 11 | 5  | 1  | 25 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 7      | 11 | 15 | 1  | 25 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 8      | 11 | 25 | 1  | 25 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 9      | 11 | 35 | 1  | 25 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 10     | 11 | 45 | 1  | 25 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 11     | 11 | 55 | 1  | 25 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 12     | 12 | 5  | 1  | 26 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 13     | 12 | 15 | 1  | 26 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 14     | 12 | 25 | 1  | 26 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 15     | 12 | 35 | 1  | 26 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 16     | 12 | 45 | 1  | 26 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 17     | 12 | 55 | 1  | 26 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 18     | 13 | 5  | 1  | 27 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 19     | 13 | 15 | 1  | 27 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 20     | 13 | 25 | 1  | 27 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 21     | 13 | 35 | 1  | 27 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 22     | 13 | 45 | 1  | 27 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 23     | 13 | 55 | 1  | 27 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 24     | 14 | 5  | 1  | 28 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 25     | 14 | 15 | 1  | 28 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 26     | 14 | 25 | 1  | 28 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 27     | 14 | 35 | 1  | 28 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 28     | 14 | 45 | 1  | 28 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 29     | 14 | 55 | 1  | 28 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 30     | 15 | 5  | 1  | 29 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 1      | 15 | 15 | 1  | 29 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 2      | 15 | 25 | 1  | 29 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 3      | 15 | 35 | 1  | 29 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 4      | 15 | 45 | 1  | 29 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 5      | 15 | 55 | 1  | 29 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 1  | 15 | 11     |
| 6      | 16 | 5  | 1  |    |    |    |    |    |    |    |    |    |    |    |    |    |        |



# aut Oppositionis a Media.

Signa

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Argumenti Solis

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| 0     | 9 44 | 9 54 | 10 3 | 10 12 | 10 22 | 10 31 | 10 40 | 10 49 | 10 58 | 11 6  | 11 15 | 11 23 | 11 31 | 11 39 | 11 47 | 11 55 | 0     |
| 1     | 9 43 | 9 53 | 10 2 | 10 11 | 10 21 | 10 30 | 10 39 | 10 48 | 10 57 | 11 5  | 11 14 | 11 22 | 11 30 | 11 38 | 11 46 | 11 54 | 1     |
| 2     | 9 42 | 9 52 | 10 1 | 10 10 | 10 20 | 10 29 | 10 38 | 10 47 | 10 56 | 11 4  | 11 13 | 11 21 | 11 29 | 11 37 | 11 45 | 11 53 | 2     |
| 3     | 9 41 | 9 51 | 10 0 | 10 9  | 10 19 | 10 28 | 10 37 | 10 46 | 10 55 | 11 3  | 11 12 | 11 20 | 11 28 | 11 36 | 11 44 | 11 52 | 3     |
| 4     | 9 40 | 9 50 | 9 59 | 10 8  | 10 18 | 10 27 | 10 36 | 10 45 | 10 54 | 11 2  | 11 11 | 11 19 | 11 27 | 11 35 | 11 43 | 11 51 | 4     |
| 5     | 9 39 | 9 49 | 9 58 | 10 7  | 10 17 | 10 26 | 10 35 | 10 44 | 10 53 | 11 1  | 11 10 | 11 18 | 11 26 | 11 34 | 11 42 | 11 50 | 5     |
| 6     | 9 37 | 9 47 | 9 56 | 10 6  | 10 16 | 10 25 | 10 34 | 10 43 | 10 52 | 11 0  | 11 9  | 11 17 | 11 25 | 11 33 | 11 41 | 11 49 | 6     |
| 7     | 9 36 | 9 46 | 9 55 | 10 5  | 10 15 | 10 24 | 10 33 | 10 42 | 10 51 | 10 58 | 11 7  | 11 15 | 11 23 | 11 31 | 11 39 | 11 47 | 7     |
| 8     | 9 34 | 9 44 | 9 53 | 10 3  | 10 13 | 10 22 | 10 31 | 10 40 | 10 49 | 10 56 | 11 5  | 11 13 | 11 21 | 11 29 | 11 37 | 11 45 | 8     |
| 9     | 9 33 | 9 42 | 9 51 | 10 2  | 10 12 | 10 21 | 10 30 | 10 39 | 10 48 | 10 54 | 11 3  | 11 11 | 11 19 | 11 27 | 11 35 | 11 43 | 9     |
| 10    | 9 31 | 9 41 | 9 50 | 9 59  | 10 8  | 10 17 | 10 26 | 10 35 | 10 44 | 10 53 | 11 1  | 11 9  | 11 17 | 11 25 | 11 33 | 11 41 | 10    |
| 11    | 9 30 | 9 39 | 9 48 | 9 57  | 10 6  | 10 15 | 10 24 | 10 33 | 10 42 | 10 50 | 10 59 | 11 7  | 11 15 | 11 23 | 11 31 | 11 39 | 11    |
| 12    | 9 28 | 9 37 | 9 46 | 9 55  | 10 4  | 10 13 | 10 22 | 10 31 | 10 40 | 10 47 | 10 56 | 11 4  | 11 12 | 11 20 | 11 28 | 11 36 | 12    |
| 13    | 9 26 | 9 35 | 9 44 | 9 53  | 10 2  | 10 11 | 10 20 | 10 29 | 10 38 | 10 46 | 10 54 | 11 1  | 11 9  | 11 17 | 11 25 | 11 33 | 13    |
| 14    | 9 23 | 9 32 | 9 41 | 9 50  | 9 59  | 10 8  | 10 16 | 10 25 | 10 33 | 10 41 | 10 50 | 10 58 | 11 6  | 11 14 | 11 22 | 11 30 | 14    |
| 15    | 9 20 | 9 29 | 9 38 | 9 47  | 9 56  | 10 5  | 10 14 | 10 22 | 10 30 | 10 38 | 10 47 | 10 55 | 11 3  | 11 11 | 11 19 | 11 27 | 15    |
| 16    | 9 17 | 9 26 | 9 35 | 9 44  | 9 53  | 10 2  | 10 10 | 10 19 | 10 27 | 10 35 | 10 44 | 10 52 | 11 0  | 11 8  | 11 16 | 11 24 | 16    |
| 17    | 9 14 | 9 23 | 9 32 | 9 41  | 9 50  | 9 59  | 10 7  | 10 16 | 10 24 | 10 32 | 10 40 | 10 49 | 10 57 | 11 5  | 11 13 | 11 21 | 17    |
| 18    | 9 11 | 9 20 | 9 29 | 9 38  | 9 47  | 9 55  | 10 4  | 10 13 | 10 21 | 10 29 | 10 38 | 10 46 | 10 54 | 11 2  | 11 10 | 11 17 | 18    |
| 19    | 9 7  | 9 16 | 9 25 | 9 34  | 9 43  | 9 51  | 10 0  | 10 9  | 10 17 | 10 25 | 10 34 | 10 42 | 10 50 | 10 58 | 11 6  | 11 14 | 19    |
| 20    | 9 3  | 9 12 | 9 21 | 9 30  | 9 39  | 9 48  | 9 56  | 10 5  | 10 13 | 10 21 | 10 30 | 10 38 | 10 46 | 10 54 | 11 2  | 11 9  | 20    |
| 21    | 8 59 | 9 8  | 9 17 | 9 26  | 9 35  | 9 44  | 9 52  | 10 1  | 10 9  | 10 17 | 10 26 | 10 34 | 10 42 | 10 50 | 10 58 | 11 5  | 21    |
| 22    | 8 55 | 9 4  | 9 13 | 9 22  | 9 31  | 9 40  | 9 48  | 9 57  | 10 5  | 10 13 | 10 21 | 10 30 | 10 38 | 10 46 | 10 54 | 11 1  | 22    |
| 23    | 8 51 | 9 0  | 9 9  | 9 18  | 9 27  | 9 36  | 9 44  | 9 53  | 10 1  | 10 9  | 10 18 | 10 26 | 10 34 | 10 42 | 10 50 | 10 57 | 23    |
| 24    | 8 47 | 8 56 | 9 5  | 9 14  | 9 23  | 9 32  | 9 40  | 9 49  | 9 57  | 10 5  | 10 13 | 10 21 | 10 29 | 10 37 | 10 45 | 10 52 | 24    |
| 25    | 8 43 | 8 51 | 9 1  | 9 9   | 9 18  | 9 27  | 9 35  | 9 44  | 9 52  | 10 0  | 10 8  | 10 16 | 10 24 | 10 32 | 10 40 | 10 47 | 25    |
| 26    | 8 38 | 8 47 | 8 56 | 9 4   | 9 13  | 9 22  | 9 30  | 9 39  | 9 47  | 9 55  | 10 3  | 10 11 | 10 19 | 10 27 | 10 35 | 10 42 | 26    |
| 27    | 8 33 | 8 42 | 8 51 | 8 59  | 9 8   | 9 17  | 9 25  | 9 34  | 9 42  | 9 50  | 9 58  | 10 6  | 10 14 | 10 22 | 10 30 | 10 37 | 27    |
| 28    | 8 28 | 8 37 | 8 46 | 8 54  | 9 3   | 9 12  | 9 20  | 9 29  | 9 37  | 9 45  | 9 53  | 10 1  | 10 9  | 10 17 | 10 25 | 10 32 | 28    |
| 29    | 8 23 | 8 31 | 8 40 | 8 49  | 8 58  | 9 7   | 9 15  | 9 24  | 9 32  | 9 40  | 9 48  | 9 56  | 10 4  | 10 12 | 10 20 | 10 27 | 29    |
| 30    | 8 18 | 8 27 | 8 36 | 8 44  | 8 53  | 9 2   | 9 10  | 9 18  | 9 26  | 9 34  | 9 42  | 9 50  | 9 58  | 10 6  | 10 14 | 10 21 | 30    |
| 31    | 8 13 | 8 22 | 8 31 | 8 40  | 8 48  | 8 57  | 9 5   | 9 13  | 9 21  | 9 29  | 9 37  | 9 45  | 9 53  | 10 1  | 10 9  | 10 16 | 31    |
| 32    | 8 7  | 8 16 | 8 25 | 8 33  | 8 42  | 8 51  | 8 59  | 9 7   | 9 15  | 9 23  | 9 31  | 9 39  | 9 47  | 9 55  | 10 3  | 10 10 | 32    |
| 33    | 8 1  | 8 10 | 8 19 | 8 27  | 8 36  | 8 45  | 8 54  | 9 1   | 9 9   | 9 17  | 9 25  | 9 33  | 9 41  | 9 49  | 9 57  | 10 4  | 33    |
| 34    | 7 56 | 8 5  | 8 14 | 8 22  | 8 31  | 8 40  | 8 48  | 8 56  | 9 4   | 9 12  | 9 20  | 9 28  | 9 36  | 9 44  | 9 52  | 9 59  | 34    |
| 35    | 7 50 | 7 59 | 8 8  | 8 16  | 8 25  | 8 34  | 8 42  | 8 50  | 8 58  | 9 6   | 9 14  | 9 22  | 9 30  | 9 38  | 9 46  | 9 53  | 35    |
| 36    | 7 44 | 7 53 | 8 2  | 8 10  | 8 19  | 8 28  | 8 36  | 8 44  | 8 52  | 9 0   | 9 8   | 9 16  | 9 24  | 9 32  | 9 40  | 9 47  | 36    |
| 37    | 7 38 | 7 47 | 7 56 | 8 4   | 8 13  | 8 22  | 8 30  | 8 38  | 8 46  | 8 54  | 9 2   | 9 10  | 9 18  | 9 26  | 9 34  | 9 41  | 37    |
| 38    | 7 31 | 7 40 | 7 49 | 7 57  | 8 6   | 8 15  | 8 23  | 8 31  | 8 39  | 8 47  | 8 55  | 9 3   | 9 11  | 9 19  | 9 27  | 9 34  | 38    |
| 39    | 7 25 | 7 34 | 7 43 | 7 51  | 8 0   | 8 9   | 8 17  | 8 25  | 8 33  | 8 41  | 8 49  | 8 57  | 9 4   | 9 12  | 9 20  | 9 27  | 39    |
| 40    | 7 18 | 7 27 | 7 36 | 7 44  | 7 53  | 8 2   | 8 10  | 8 18  | 8 26  | 8 34  | 8 42  | 8 50  | 8 58  | 9 6   | 9 14  | 9 21  | 40    |
| 41    | 7 12 | 7 21 | 7 30 | 7 38  | 7 47  | 7 56  | 8 4   | 8 12  | 8 20  | 8 28  | 8 36  | 8 44  | 8 51  | 8 59  | 9 7   | 9 14  | 41    |
| 42    | 7 5  | 7 14 | 7 23 | 7 31  | 7 40  | 7 49  | 7 57  | 8 5   | 8 13  | 8 21  | 8 29  | 8 37  | 8 44  | 8 52  | 9 0   | 9 7   | 42    |
| 43    | 6 58 | 7 7  | 7 16 | 7 24  | 7 33  | 7 42  | 7 50  | 7 58  | 8 6   | 8 14  | 8 22  | 8 30  | 8 37  | 8 45  | 8 53  | 9 0   | 43    |
| 44    | 6 51 | 7 0  | 7 9  | 7 17  | 7 26  | 7 35  | 7 43  | 7 51  | 7 59  | 8 6   | 8 15  | 8 23  | 8 30  | 8 38  | 8 45  | 8 52  | 44    |
| 45    | 6 44 | 6 53 | 7 2  | 7 10  | 7 19  | 7 27  | 7 35  | 7 43  | 7 51  | 7 59  | 8 7   | 8 15  | 8 22  | 8 30  | 8 38  | 8 45  | 45    |
| 46    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 46    |
| 47    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 47    |
| 48    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 48    |
| 49    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 49    |
| 50    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 50    |
| 51    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 51    |
| 52    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 52    |
| 53    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 53    |
| 54    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 54    |
| 55    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 55    |
| 56    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 56    |
| 57    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 57    |
| 58    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 58    |
| 59    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 59    |
| 60    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 60    |
| 61    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 61    |
| 62    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 62    |
| 63    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 63    |
| 64    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 64    |
| 65    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 65    |
| 66    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 66    |
| 67    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 67    |
| 68    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 68    |
| 69    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 69    |
| 70    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 70    |
| 71    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 71    |
| 72    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 72    |
| 73    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 73    |
| 74    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 74    |
| 75    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 75    |
| 76    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 76    |
| 77    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 77    |
| 78    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 78    |
| 79    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 79    |
| 80    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 80    |
| 81    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 81    |
| 82    | (1)  | (1)  | (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | 82    |
| 83    | (1)  | (1)  | (1)  | (1)   | (1)   | (     |       |       |       |       |       |       |       |       |       |       |       |

# aut Oppositionis a Media.

Signa

6

Argumenti Solus

| Sta  | 0    | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | dia  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Sta  | 0    | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | dia  |
| 4 15 | 6 44 | 6 51 | 7 2  | 7 10 | 7 19 | 7 27 | 7 35 | 7 43 | 7 51 | 7 59 | 8 7  | 8 15 | 8 22 | 8 30 | 8 38 | 8 45 | 7 17 |
| 4 16 | 6 37 | 6 46 | 6 55 | 7 3  | 7 12 | 7 20 | 7 28 | 7 36 | 7 44 | 7 52 | 8 0  | 8 8  | 8 15 | 8 23 | 8 30 | 8 37 | 7 14 |
| 4 17 | 6 30 | 6 39 | 6 48 | 6 56 | 7 5  | 7 13 | 7 21 | 7 29 | 7 37 | 7 45 | 7 53 | 8 1  | 8 8  | 8 16 | 8 23 | 8 30 | 7 13 |
| 4 18 | 6 22 | 6 31 | 6 40 | 6 48 | 6 57 | 7 5  | 7 13 | 7 21 | 7 29 | 7 37 | 7 45 | 7 53 | 8 0  | 8 8  | 8 15 | 8 22 | 7 12 |
| 4 19 | 6 15 | 6 24 | 6 33 | 6 41 | 6 50 | 6 58 | 7 6  | 7 14 | 7 22 | 7 29 | 7 37 | 7 45 | 7 52 | 8 0  | 8 7  | 8 14 | 7 11 |
| 4 20 | 6 7  | 6 16 | 6 25 | 6 33 | 6 42 | 6 50 | 6 58 | 7 6  | 7 14 | 7 21 | 7 29 | 7 37 | 7 44 | 7 52 | 7 59 | 8 6  | 7 10 |
| 4 21 | 5 59 | 6 8  | 6 17 | 6 25 | 6 34 | 6 42 | 6 50 | 6 58 | 7 6  | 7 13 | 7 21 | 7 29 | 7 36 | 7 44 | 7 51 | 7 58 | 7 9  |
| 4 22 | 5 51 | 6 0  | 6 9  | 6 17 | 6 26 | 6 34 | 6 42 | 6 50 | 6 58 | 7 5  | 7 13 | 7 21 | 7 28 | 7 36 | 7 43 | 7 50 | 7 8  |
| 4 23 | 5 43 | 5 52 | 6 1  | 6 9  | 6 18 | 6 26 | 6 34 | 6 42 | 6 50 | 6 57 | 7 5  | 7 13 | 7 20 | 7 28 | 7 35 | 7 42 | 7 7  |
| 4 24 | 5 35 | 5 44 | 5 53 | 6 1  | 6 10 | 6 18 | 6 26 | 6 34 | 6 42 | 6 49 | 6 57 | 7 5  | 7 12 | 7 20 | 7 27 | 7 34 | 7 6  |
| 4 25 | 5 27 | 5 36 | 5 45 | 5 53 | 6 2  | 6 10 | 6 18 | 6 26 | 6 34 | 6 41 | 6 49 | 6 57 | 7 4  | 7 12 | 7 19 | 7 26 | 7 5  |
| 4 26 | 5 18 | 5 27 | 5 36 | 5 44 | 5 53 | 6 1  | 6 9  | 6 17 | 6 25 | 6 32 | 6 40 | 6 48 | 6 55 | 7 3  | 7 10 | 7 17 | 7 4  |
| 4 27 | 5 10 | 5 19 | 5 27 | 5 35 | 5 44 | 5 52 | 6 0  | 6 8  | 6 16 | 6 23 | 6 31 | 6 39 | 6 46 | 6 54 | 7 1  | 7 8  | 7 3  |
| 4 28 | 5 1  | 5 10 | 5 19 | 5 27 | 5 36 | 5 44 | 5 52 | 6 0  | 6 8  | 6 15 | 6 23 | 6 31 | 6 38 | 6 46 | 6 53 | 7 0  | 7 2  |
| 4 29 | 4 53 | 5 2  | 5 10 | 5 18 | 5 27 | 5 35 | 5 43 | 5 51 | 5 59 | 6 6  | 6 14 | 6 22 | 6 29 | 6 37 | 6 44 | 6 51 | 7 1  |
| 5 0  | 4 44 | 4 53 | 5 1  | 5 9  | 5 18 | 5 26 | 5 34 | 5 42 | 5 50 | 5 57 | 6 5  | 6 13 | 6 20 | 6 28 | 6 35 | 6 42 | 7 0  |
| 5 1  | 4 36 | 4 45 | 4 53 | 5 1  | 5 10 | 5 18 | 5 26 | 5 34 | 5 42 | 5 49 | 5 57 | 6 5  | 6 12 | 6 20 | 6 27 | 6 34 | 7 0  |
| 5 2  | 4 27 | 4 36 | 4 44 | 4 52 | 5 1  | 5 9  | 5 17 | 5 25 | 5 33 | 5 40 | 5 48 | 5 56 | 6 3  | 6 11 | 6 18 | 6 25 | 6 28 |
| 5 3  | 4 18 | 4 27 | 4 35 | 4 43 | 4 51 | 5 0  | 5 8  | 5 16 | 5 24 | 5 31 | 5 39 | 5 47 | 5 54 | 6 2  | 6 9  | 6 16 | 6 23 |
| 5 4  | 4 9  | 4 18 | 4 26 | 4 34 | 4 43 | 4 51 | 4 59 | 5 7  | 5 15 | 5 22 | 5 30 | 5 38 | 5 45 | 5 53 | 6 0  | 6 7  | 6 26 |
| 5 5  | 4 0  | 4 9  | 4 17 | 4 25 | 4 34 | 4 42 | 4 50 | 4 58 | 5 6  | 5 13 | 5 21 | 5 29 | 5 36 | 5 44 | 5 51 | 5 58 | 6 25 |
| 5 6  | 3 51 | 4 0  | 4 8  | 4 16 | 4 25 | 4 33 | 4 41 | 4 49 | 4 57 | 5 4  | 5 12 | 5 20 | 5 27 | 5 35 | 5 42 | 5 49 | 6 24 |
| 5 7  | 3 42 | 3 51 | 3 59 | 4 7  | 4 16 | 4 24 | 4 32 | 4 40 | 4 48 | 4 55 | 5 3  | 5 11 | 5 18 | 5 26 | 5 33 | 5 40 | 6 23 |
| 5 8  | 3 33 | 3 42 | 3 50 | 3 58 | 4 7  | 4 15 | 4 23 | 4 31 | 4 39 | 4 46 | 4 54 | 5 2  | 5 9  | 5 17 | 5 24 | 5 31 | 6 22 |
| 5 9  | 3 23 | 3 32 | 3 40 | 3 48 | 3 57 | 4 5  | 4 13 | 4 21 | 4 29 | 4 36 | 4 44 | 4 52 | 4 59 | 5 7  | 5 14 | 5 21 | 6 21 |
| 5 10 | 3 14 | 3 23 | 3 31 | 3 39 | 3 48 | 3 56 | 4 4  | 4 12 | 4 20 | 4 27 | 4 35 | 4 43 | 4 50 | 4 58 | 5 5  | 5 12 | 6 20 |
| 5 11 | 3 5  | 3 14 | 3 22 | 3 30 | 3 39 | 3 47 | 3 55 | 4 3  | 4 11 | 4 18 | 4 26 | 4 34 | 4 41 | 4 49 | 4 56 | 5 3  | 6 19 |
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| 5 18 | 1 58 | 2 7  | 2 15 | 2 23 | 2 31 | 2 39 | 2 47 | 2 55 | 3 3  | 3 10 | 3 18 | 3 26 | 3 33 | 3 41 | 3 48 | 3 55 | 6 12 |
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| 6 0  | 0 0  | 0 9  | 0 17 | 0 25 | 0 33 | 0 41 | 0 49 | 0 57 | 1 5  | 1 12 | 1 20 | 1 28 | 1 35 | 1 43 | 1 50 | 1 57 | 6 0  |
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Argumenti Solus

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Signa

# Tabula distantie Vere Coniunctionis

Signa

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Argumenti Solis

| Signa | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 26    | 28    | 30    | des   |
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| 24    | 6 46  | 6 51  | 6 60  | 6 68  | 6 76  | 7 14  | 7 21  | 7 28  | 7 35  | 7 42  | 7 49  | 7 55  | 8 1   | 8 7   | 8 12  | 8 17  | 11 6  |
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| 11    | 9 53  | 9 58  | 10 7  | 10 15 | 10 23 | 10 31 | 10 38 | 10 45 | 10 52 | 11 0  | 11 7  | 11 14 | 11 20 | 11 26 | 11 32 | 11 37 | 10 18 |
| 12    | 10 4  | 10 9  | 10 18 | 10 26 | 10 34 | 10 42 | 10 49 | 10 56 | 11 3  | 11 10 | 11 17 | 11 24 | 11 30 | 11 36 | 11 42 | 11 47 | 10 17 |
| 13    | 10 15 | 10 20 | 10 29 | 10 37 | 10 45 | 10 53 | 11 0  | 11 7  | 11 14 | 11 21 | 11 28 | 11 35 | 11 41 | 11 47 | 11 53 | 11 58 | 10 16 |
| 14    | 10 26 | 10 31 | 10 40 | 10 48 | 10 56 | 11 4  | 11 11 | 11 18 | 11 25 | 11 32 | 11 39 | 11 46 | 11 52 | 11 58 | 12 4  | 12 9  | 10 15 |
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| Gradu | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | Gradu |
| min   | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | min   |
| sec   | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | 5     | sec   |
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| 2 21  | 11 56 | 12 3  | 12 10 | 12 17 | 12 24 | 12 31 | 12 38 | 12 45 | 12 51 | 12 57 | 13 3  | 13 9  | 13 15 | 13 20 | 13 25 | 13 30 | 9 39  |
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| Sta   | 30    | 28    | 26    | 24    | 22    | 20    | 18    | 16    | 14    | 12    | 10    | 8     | 6     | 4     | 2     | 0     | duo   |

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Sigma

# Tabula distantie Vere Coniunctionis

Signa

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Argumenti Solis

| Signa  | 0     | 2    | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 26    | 28    | 30    | duas   |
|--------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Gradus | 0     | 2    | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 26    | 28    | 30    | Gradus |
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| 3 47   | 11 59 | 12 0 | 11 24 | 11 31 | 11 38 | 11 45 | 11 52 | 11 59 | 12 4  | 12 10 | 12 16 | 12 22 | 12 18 | 12 23 | 12 28 | 12 32 | 8 13   |
| 3 48   | 11 59 | 12 0 | 11 23 | 11 30 | 11 37 | 11 44 | 11 51 | 11 58 | 12 3  | 12 9  | 12 15 | 12 21 | 12 17 | 12 22 | 12 27 | 12 31 | 8 12   |
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| 3 53   | 11 59 | 12 0 | 11 18 | 11 25 | 11 32 | 11 39 | 11 46 | 11 53 | 11 59 | 12 4  | 12 10 | 12 16 | 12 12 | 12 17 | 12 22 | 12 26 | 8 7    |
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| 3 56   | 11 59 | 12 0 | 11 15 | 11 22 | 11 29 | 11 36 | 11 43 | 11 50 | 11 57 | 12 1  | 12 7  | 12 13 | 12 9  | 12 14 | 12 19 | 12 23 | 8 4    |
| 3 57   | 11 59 | 12 0 | 11 14 | 11 21 | 11 28 | 11 35 | 11 42 | 11 49 | 11 56 | 12 0  | 12 6  | 12 12 | 12 8  | 12 13 | 12 18 | 12 22 | 8 3    |
| 3 58   | 11 59 | 12 0 | 11 13 | 11 20 | 11 27 | 11 34 | 11 41 | 11 48 | 11 55 | 11 59 | 12 5  | 12 11 | 12 17 | 12 13 | 12 18 | 12 22 | 8 2    |
| 3 59   | 11 59 | 12 0 | 11 12 | 11 19 | 11 26 | 11 33 | 11 40 | 11 47 | 11 54 | 11 59 | 12 4  | 12 10 | 12 16 | 12 12 | 12 17 | 12 21 | 8 1    |
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| 3 62   | 11 59 | 12 0 | 11 9  | 11 16 | 11 23 | 11 30 | 11 37 | 11 44 | 11 51 | 11 58 | 12 1  | 12 7  | 12 13 | 12 9  | 12 14 | 12 18 | 7 58   |
| 3 63   | 11 59 | 12 0 | 11 8  | 11 15 | 11 22 | 11 29 | 11 36 | 11 43 | 11 50 | 11 57 | 12 0  | 12 6  | 12 12 | 12 8  | 12 13 | 12 17 | 7 57   |
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| 3 66   | 11 59 |      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |        |



aut Oppositionis a Media.

## Signa

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### Argumenti Solus

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Signal

# Tabula distantie Nere Comuictionis

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Argumenti Solis

| Arg  | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 26    | 28    | 30    | dis   |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 0  | 4 14  | 4 19  | 4 23  | 4 27  | 4 31  | 4 34  | 4 37  | 4 39  | 4 41  | 4 43  | 4 45  | 4 46  | 4 47  | 4 47  | 4 47  | 4 47  | 12 0  |
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| 0 6  | 5 17  | 5 21  | 5 25  | 5 29  | 5 33  | 5 36  | 5 39  | 5 41  | 5 43  | 5 45  | 5 47  | 5 48  | 5 49  | 5 49  | 5 49  | 5 49  | 11 24 |
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| 0 8  | 5 38  | 5 42  | 5 46  | 5 50  | 5 54  | 5 57  | 6 0   | 6 2   | 6 4   | 6 6   | 6 8   | 6 9   | 6 10  | 6 10  | 6 10  | 6 10  | 11 22 |
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| 0 13 | 6 29  | 6 33  | 6 37  | 6 41  | 6 45  | 6 48  | 6 51  | 6 53  | 6 55  | 6 57  | 6 59  | 7 0   | 7 1   | 7 1   | 7 1   | 7 1   | 11 17 |
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| 1 2  | 9 27  | 9 31  | 9 35  | 9 39  | 9 43  | 9 46  | 9 49  | 9 51  | 9 53  | 9 55  | 9 57  | 9 58  | 9 59  | 9 59  | 9 59  | 9 59  | 10 28 |
| 1 3  | 9 36  | 9 40  | 9 44  | 9 48  | 9 51  | 9 54  | 9 57  | 9 59  | 10 1  | 10 3  | 10 5  | 10 6  | 10 7  | 10 7  | 10 7  | 10 7  | 10 27 |
| 1 4  | 9 44  | 9 48  | 9 52  | 9 56  | 10 0  | 10 3  | 10 6  | 10 8  | 10 10 | 10 12 | 10 14 | 10 15 | 10 16 | 10 16 | 10 16 | 10 16 | 10 26 |
| 1 5  | 9 53  | 9 57  | 10 1  | 10 5  | 10 8  | 10 11 | 10 14 | 10 16 | 10 18 | 10 20 | 10 22 | 10 23 | 10 24 | 10 24 | 10 24 | 10 24 | 10 25 |
| 1 6  | 10 1  | 10 5  | 10 9  | 10 13 | 10 16 | 10 19 | 10 22 | 10 24 | 10 26 | 10 28 | 10 30 | 10 31 | 10 32 | 10 32 | 10 32 | 10 32 | 10 24 |
| 1 7  | 10 9  | 10 13 | 10 17 | 10 21 | 10 24 | 10 27 | 10 30 | 10 32 | 10 34 | 10 36 | 10 38 | 10 39 | 10 40 | 10 40 | 10 40 | 10 40 | 10 23 |
| 1 8  | 10 17 | 10 21 | 10 25 | 10 29 | 10 32 | 10 35 | 10 38 | 10 40 | 10 42 | 10 44 | 10 46 | 10 47 | 10 48 | 10 48 | 10 48 | 10 48 | 10 22 |
| 1 9  | 10 24 | 10 28 | 10 32 | 10 36 | 10 39 | 10 42 | 10 45 | 10 47 | 10 49 | 10 51 | 10 53 | 10 54 | 10 55 | 10 55 | 10 55 | 10 55 | 10 21 |
| 1 10 | 10 32 | 10 36 | 10 40 | 10 44 | 10 47 | 10 50 | 10 53 | 10 55 | 10 57 | 10 59 | 11 1  | 11 2  | 11 3  | 11 3  | 11 3  | 11 3  | 10 20 |
| 1 11 | 10 40 | 10 44 | 10 48 | 10 52 | 10 55 | 10 58 | 11 1  | 11 3  | 11 5  | 11 7  | 11 9  | 11 10 | 11 11 | 11 11 | 11 11 | 11 11 | 10 19 |
| 1 12 | 10 47 | 10 51 | 10 55 | 10 59 | 11 2  | 11 5  | 11 8  | 11 10 | 11 12 | 11 14 | 11 16 | 11 17 | 11 18 | 11 18 | 11 18 | 11 18 | 10 18 |
| 1 13 | 10 54 | 10 58 | 11 2  | 11 6  | 11 9  | 11 12 | 11 15 | 11 17 | 11 19 | 11 21 | 11 23 | 11 24 | 11 25 | 11 25 | 11 25 | 11 25 | 10 17 |
| 1 14 | 11 1  | 11 5  | 11 9  | 11 13 | 11 16 | 11 19 | 11 22 | 11 24 | 11 26 | 11 28 | 11 30 | 11 31 | 11 32 | 11 32 | 11 32 | 11 32 | 10 16 |
| 1 15 | 11 8  | 11 12 | 11 16 | 11 20 | 11 23 | 11 26 | 11 29 | 11 31 | 11 33 | 11 35 | 11 37 | 11 38 | 11 39 | 11 39 | 11 39 | 11 39 | 10 15 |
| 1 16 | 11 16 | 11 20 | 11 24 | 11 28 | 11 31 | 11 34 | 11 37 | 11 39 | 11 41 | 11 43 | 11 45 | 11 46 | 11 47 | 11 47 | 11 47 | 11 47 | 10 14 |
| 1 17 | 11 24 | 11 28 | 11 32 | 11 36 | 11 39 | 11 42 | 11 45 | 11 47 | 11 49 | 11 51 | 11 53 | 11 54 | 11 55 | 11 55 | 11 55 | 11 55 | 10 13 |
| 1 18 | 11 32 | 11 36 | 11 40 | 11 44 | 11 47 | 11 50 | 11 53 | 11 55 | 11 57 | 11 59 | 12 1  | 12 2  | 12 3  | 12 3  | 12 3  | 12 3  | 10 12 |
| 1 19 | 11 40 | 11 44 | 11 48 | 11 52 | 11 55 | 11 58 | 12 1  | 12 3  | 12 5  | 12 7  | 12 9  | 12 10 | 12 11 | 12 11 | 12 11 | 12 11 | 10 11 |
| 1 20 | 11 47 | 11 51 | 11 55 | 11 59 | 12 2  | 12 5  | 12 8  | 12 10 | 12 12 | 12 14 | 12 16 | 12 17 | 12 18 | 12 18 | 12 18 | 12 18 | 10 10 |
| 1 21 | 11 54 | 11 58 | 12 2  | 12 6  | 12 9  | 12 12 | 12 15 | 12 17 | 12 19 | 12 21 | 12 23 | 12 24 | 12 25 | 12 25 | 12 25 | 12 25 | 10 9  |
| 1 22 | 12 2  | 12 6  | 12 10 | 12 14 | 12 17 | 12 20 | 12 23 | 12 25 | 12 27 | 12 29 | 12 31 | 12 33 | 12 34 | 12 34 | 12 34 | 12 34 | 10 8  |
| 1 23 | 12 10 | 12 14 | 12 18 | 12 22 | 12 25 | 12 28 | 12 31 | 12 33 | 12 35 | 12 37 | 12 39 | 12 41 | 12 42 | 12 42 | 12 42 | 12 42 | 10 7  |
| 1 24 | 12 17 | 12 21 | 12 25 | 12 29 | 12 32 | 12 35 | 12 38 | 12 40 | 12 42 | 12 44 | 12 46 | 12 48 | 12 49 | 12 49 | 12 49 | 12 49 | 10 6  |
| 1 25 | 12 25 | 12 29 | 12 33 | 12 37 | 12 40 | 12 43 | 12 46 | 12 48 | 12 50 | 12 52 | 12 54 | 12 56 | 12 57 | 12 57 | 12 57 | 12 57 | 10 5  |
| 1 26 | 12 32 | 12 36 | 12 40 | 12 44 | 12 47 | 12 50 | 12 53 | 12 55 | 12 57 | 12 59 | 13 1  | 13 2  | 13 3  | 13 3  | 13 3  | 13 3  | 10 4  |
| 1 27 | 12 40 | 12 44 | 12 48 | 12 52 | 12 55 | 12 58 | 13 1  | 13 3  | 13 5  | 13 7  | 13 9  | 13 10 | 13 11 | 13 11 | 13 11 | 13 11 | 10 3  |
| 1 28 | 12 47 | 12 51 | 12 55 | 12 59 | 13 2  | 13 5  | 13 8  | 13 10 | 13 12 | 13 14 | 13 16 | 13 17 | 13 18 | 13 18 | 13 18 | 13 18 | 10 2  |
| 1 29 | 12 54 | 12 58 | 13 2  | 13 6  | 13 9  | 13 12 | 13 15 | 13 17 | 13 19 | 13 21 | 13 23 | 13 24 | 13 25 | 13 25 | 13 25 | 13 25 | 10 1  |
| 1 30 | 13 2  | 13 6  | 13 10 | 13 14 | 13 17 | 13 20 | 13 23 | 13 25 | 13 27 | 13 29 | 13 31 | 13 33 | 13 34 | 13 34 | 13 34 | 13 34 | 10 0  |
| 1 31 | 13 10 | 13 14 | 13 18 | 13 22 | 13 25 | 13 28 | 13 31 | 13 33 | 13 35 | 13 37 | 13 39 | 13 41 | 13 42 | 13 42 | 13 42 | 13 42 | 10 0  |
| 1 32 | 13 17 | 13 21 | 13 25 | 13 29 | 13 32 | 13 35 | 13 38 | 13 40 | 13 42 | 13 44 | 13 46 | 13 48 | 13 49 | 13 49 | 13 49 | 13 49 | 10 0  |
| 1 33 | 13 25 | 13 29 | 13 33 | 13 37 | 13 40 | 13 43 | 13 46 | 13 48 | 13 50 | 13 52 | 13 54 | 13 56 | 13 57 | 13 57 | 13 57 | 13 57 | 10 0  |
| 1 34 | 13 32 | 13 36 | 13 40 | 13 44 | 13 47 | 13 50 | 13 53 | 13 55 | 13 57 | 13 59 | 14 1  | 14 2  | 14 3  | 14 3  | 14 3  | 14 3  | 10 0  |
| 1 35 | 13 40 | 13 44 | 13 48 | 13 52 | 13 55 | 13 58 | 14 1  | 14 3  | 14 5  | 14 7  | 14 9  | 14 10 | 14 11 | 14 11 | 14 11 | 14 11 | 10 0  |
| 1 36 | 13 47 | 13 51 | 13 55 | 13 59 | 14 2  | 14 5  | 14 8  | 14 10 | 14 12 | 14 14 | 14 16 | 14 17 | 14 18 | 14 18 | 14 18 | 14 18 | 10 0  |
| 1 37 | 13 54 | 13 58 | 14 2  | 14 6  | 14 9  | 14 12 | 14 15 | 14 17 | 14 19 | 14 21 | 14 23 | 14 24 | 14 25 | 14 25 | 14 25 | 14 25 | 10 0  |
| 1 38 | 14 2  | 14 6  | 14 10 | 14 14 | 14 17 | 14 20 | 14 23 | 14 25 | 14 27 | 14 29 | 14 31 | 14 33 | 14 34 | 14 34 | 14 34 | 14 34 | 10 0  |
| 1 39 | 14 10 | 14 14 | 14 18 | 14 22 | 14 25 | 14 28 |       |       |       |       |       |       |       |       |       |       |       |

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|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|
| Gradus | 5  | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 00 | 05 | 10 | 15 | 20 | Gradus |
| 1      | 11 | 8  | 11 | 12 | 11 | 16 | 11 | 20 | 11 | 23 | 11 | 26 | 11 | 29 | 11 | 31 | 10 15  |
| 1.16   | 11 | 15 | 11 | 19 | 11 | 23 | 11 | 27 | 11 | 30 | 11 | 33 | 11 | 36 | 11 | 38 | 10 14  |
| 1.17   | 11 | 22 | 11 | 26 | 11 | 30 | 11 | 34 | 11 | 37 | 11 | 40 | 11 | 43 | 11 | 45 | 10 13  |
| 1.18   | 11 | 28 | 11 | 32 | 11 | 36 | 11 | 40 | 11 | 43 | 11 | 46 | 11 | 49 | 11 | 51 | 10 12  |
| 1.19   | 11 | 34 | 11 | 38 | 11 | 42 | 11 | 46 | 11 | 49 | 11 | 52 | 11 | 55 | 11 | 57 | 10 11  |
| 2.0    | 11 | 40 | 11 | 44 | 11 | 48 | 11 | 52 | 11 | 55 | 11 | 58 | 11 | 01 | 11 | 03 | 10 10  |
| 2.1    | 11 | 46 | 11 | 50 | 11 | 54 | 11 | 58 | 11 | 01 | 11 | 04 | 11 | 07 | 11 | 09 | 10 9   |
| 2.2    | 11 | 52 | 11 | 56 | 11 | 00 | 11 | 04 | 11 | 07 | 11 | 10 | 11 | 13 | 11 | 15 | 10 8   |
| 2.3    | 11 | 58 | 11 | 02 | 11 | 06 | 11 | 10 | 11 | 13 | 11 | 16 | 11 | 19 | 11 | 21 | 10 7   |
| 2.4    | 12 | 04 | 11 | 08 | 11 | 12 | 11 | 16 | 11 | 19 | 11 | 22 | 11 | 25 | 11 | 27 | 10 6   |
| 2.5    | 12 | 10 | 11 | 14 | 11 | 18 | 11 | 22 | 11 | 25 | 11 | 28 | 11 | 31 | 11 | 33 | 10 5   |
| 2.6    | 12 | 16 | 11 | 20 | 11 | 24 | 11 | 28 | 11 | 31 | 11 | 34 | 11 | 37 | 11 | 39 | 10 4   |
| 2.7    | 12 | 22 | 11 | 26 | 11 | 30 | 11 | 34 | 11 | 37 | 11 | 40 | 11 | 43 | 11 | 45 | 10 3   |
| 2.8    | 12 | 28 | 11 | 32 | 11 | 36 | 11 | 40 | 11 | 43 | 11 | 46 | 11 | 49 | 11 | 51 | 10 2   |
| 2.9    | 12 | 34 | 11 | 38 | 11 | 42 | 11 | 46 | 11 | 49 | 11 | 52 | 11 | 55 | 11 | 57 | 10 1   |
| 3.0    | 12 | 40 | 11 | 44 | 11 | 48 | 11 | 52 | 11 | 55 | 11 | 58 | 11 | 01 | 11 | 03 | 10 0   |
| 3.1    | 12 | 46 | 11 | 50 | 11 | 54 | 11 | 58 | 11 | 01 | 11 | 04 | 11 | 07 | 11 | 09 | 9 59   |
| 3.2    | 12 | 52 | 11 | 56 | 11 | 00 | 11 | 04 | 11 | 07 | 11 | 10 | 11 | 13 | 11 | 15 | 9 58   |
| 3.3    | 12 | 58 | 11 | 02 | 11 | 06 | 11 | 10 | 11 | 13 | 11 | 16 | 11 | 19 | 11 | 21 | 9 57   |
| 3.4    | 13 | 04 | 11 | 08 | 11 | 12 | 11 | 16 | 11 | 19 | 11 | 22 | 11 | 25 | 11 | 27 | 9 56   |
| 3.5    | 13 | 10 | 11 | 14 | 11 | 18 | 11 | 22 | 11 | 25 | 11 | 28 | 11 | 31 | 11 | 33 | 9 55   |
| 3.6    | 13 | 16 | 11 | 20 | 11 | 24 | 11 | 28 | 11 | 31 | 11 | 34 | 11 | 37 | 11 | 39 | 9 54   |
| 3.7    | 13 | 22 | 11 | 26 | 11 | 30 | 11 | 34 | 11 | 37 | 11 | 40 | 11 | 43 | 11 | 45 | 9 53   |
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| 3.9    | 13 | 34 | 11 | 38 | 11 | 42 | 11 | 46 | 11 | 49 | 11 | 52 | 11 | 55 | 11 | 57 | 9 51   |
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| 4.1    | 13 | 46 | 11 | 50 | 11 | 54 | 11 | 58 | 11 | 01 | 11 | 04 | 11 | 07 | 11 | 09 | 9 49   |
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| 4.5    | 14 | 10 | 11 | 14 | 11 | 18 | 11 | 22 | 11 | 25 | 11 | 28 | 11 | 31 | 11 | 33 | 9 45   |
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| 4.7    | 14 | 22 | 11 | 26 | 11 | 30 | 11 | 34 | 11 | 37 | 11 | 40 | 11 | 43 | 11 | 45 | 9 43   |
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| 4.9    | 14 | 34 | 11 | 38 | 11 | 42 | 11 | 46 | 11 | 49 | 11 | 52 | 11 | 55 | 11 | 57 | 9 41   |
| 5.0    | 14 | 40 | 11 | 44 | 11 | 48 | 11 | 52 | 11 | 55 | 11 | 58 | 11 | 01 | 11 | 03 | 9 40   |
| 5.1    | 14 | 46 | 11 | 50 | 11 | 54 | 11 | 58 | 11 | 01 | 11 | 04 | 11 | 07 | 11 | 09 | 9 39   |
| 5.2    | 14 | 52 | 11 | 56 | 11 | 00 | 11 | 04 | 11 | 07 | 11 | 10 | 11 | 13 | 11 | 15 | 9 38   |
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| 5.5    | 15 | 10 | 11 | 14 | 11 | 18 | 11 | 22 | 11 | 25 | 11 | 28 | 11 | 31 | 11 | 33 | 9 35   |
| 5.6    | 15 | 16 | 11 | 20 | 11 | 24 | 11 | 28 | 11 | 31 | 11 | 34 | 11 | 37 | 11 | 39 | 9 34   |
| 5.7    | 15 | 22 | 11 | 26 | 11 | 30 | 11 | 34 | 11 | 37 | 11 | 40 | 11 | 43 | 11 | 45 | 9 33   |
| 5.8    | 15 | 28 | 11 | 32 | 11 | 36 | 11 | 40 | 11 | 43 | 11 | 46 | 11 | 49 | 11 | 51 | 9 32   |
| 5.9    | 15 | 34 | 11 | 38 | 11 | 42 | 11 | 46 | 11 | 49 | 11 | 52 | 11 | 55 | 11 | 57 | 9 31   |
| 6.0    | 15 | 40 | 11 | 44 | 11 | 48 | 11 | 52 | 11 | 55 | 11 | 58 | 11 | 01 | 11 | 03 | 9 30   |
| 6.1    | 15 | 46 | 11 | 50 | 11 | 54 | 11 | 58 | 11 | 01 | 11 | 04 | 11 | 07 | 11 | 09 | 9 29   |
| 6.2    | 15 | 52 | 11 | 56 | 11 | 00 | 11 | 04 | 11 | 07 | 11 | 10 | 11 | 13 | 11 | 15 | 9 28   |
| 6.3    | 15 | 58 | 11 | 02 | 11 | 06 | 11 | 10 | 11 | 13 | 11 | 16 | 11 | 19 | 11 | 21 | 9 27   |
| 6.4    | 16 | 04 | 11 | 08 | 11 | 12 | 11 | 16 | 11 | 19 | 11 | 22 | 11 | 25 | 11 | 27 | 9 26   |
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| 6.6    | 16 | 16 | 11 | 20 | 11 | 24 | 11 | 28 | 11 | 31 | 11 | 34 | 11 | 37 | 11 | 39 | 9 24   |
| 6.7    | 16 | 22 | 11 | 26 | 11 | 30 | 11 | 34 | 11 | 37 | 11 | 40 | 11 | 43 | 11 | 45 | 9 23   |
| 6.8    | 16 | 28 | 11 | 32 | 11 | 36 | 11 | 40 | 11 | 43 | 11 | 46 | 11 | 49 | 11 | 51 | 9 22   |
| 6.9    | 16 | 34 | 11 | 38 | 11 | 42 | 11 | 46 | 11 | 49 | 11 | 52 | 11 | 55 | 11 | 57 | 9 21   |
| 7.0    | 16 | 40 | 11 | 44 | 11 | 48 | 11 | 52 | 11 | 55 | 11 | 58 | 11 | 01 | 11 | 03 | 9 20   |
| 7.1    | 16 | 46 | 11 | 50 | 11 | 54 | 11 | 58 | 11 | 01 | 11 | 04 | 11 | 07 | 11 | 09 | 9 19   |
| 7.2    | 16 | 52 | 11 | 56 | 11 | 00 | 11 | 04 | 11 | 07 | 11 | 10 | 11 | 13 | 11 | 15 | 9 18   |
| 7.3    | 16 | 58 | 11 | 02 | 11 | 06 | 11 | 10 | 11 | 13 | 11 | 16 | 11 | 19 | 11 | 21 | 9 17   |
| 7.4    | 17 | 04 | 11 | 08 | 11 | 12 | 11 | 16 | 11 | 19 | 11 | 22 | 11 | 25 | 11 | 27 | 9 16   |
| 7.5    | 17 | 10 | 11 | 14 | 11 | 18 | 11 | 22 | 11 | 25 | 11 | 28 | 11 | 31 | 11 | 33 | 9 15   |
| 7.6    | 17 | 16 | 11 | 20 | 11 | 24 | 11 | 28 | 11 | 31 | 11 | 34 | 11 | 37 | 11 | 39 | 9 14   |
| 7.7    | 17 | 22 | 11 | 26 | 11 | 30 | 11 | 34 | 11 | 37 | 11 | 40 | 11 | 43 | 11 | 45 | 9 13   |
| 7.8    | 17 | 28 | 11 | 32 | 11 | 36 | 11 | 40 | 11 | 43 | 11 | 46 | 11 | 49 | 11 | 51 | 9 12   |
| 7.9    | 17 | 34 | 11 | 38 | 11 | 42 | 11 | 46 | 11 | 49 | 11 | 52 | 11 | 55 | 11 | 57 | 9 11   |
| 8.0    | 17 | 40 | 11 | 44 | 11 | 48 | 11 | 52 | 11 | 55 | 11 | 58 | 11 | 01 | 11 | 03 | 9 10   |
| 8.1    | 17 | 46 | 11 | 50 | 11 | 54 | 11 | 58 | 11 | 01 | 11 | 04 | 11 | 07 | 11 | 09 | 9 9    |
| 8.2    | 17 | 52 | 11 | 56 | 11 | 00 | 11 | 04 | 11 | 07 | 11 | 10 | 11 | 13 | 11 | 15 | 9 8    |
| 8.3    | 17 | 58 | 11 | 02 | 11 | 06 | 11 | 10 | 11 | 13 | 11 | 16 | 11 | 19 | 11 | 21 | 9 7    |
| 8.4    | 18 | 04 | 11 | 08 | 11 | 12 | 11 | 16 | 11 | 19 | 11 | 22 | 11 | 25 | 11 | 27 | 9 6    |
| 8.5    | 18 | 10 | 11 | 14 | 11 | 18 | 11 | 22 | 11 | 25 | 11 | 28 | 11 | 31 | 11 | 33 | 9 5    |
| 8.6    | 18 | 16 | 11 | 20 | 11 | 24 | 11 | 28 | 11 | 31 | 11 | 34 | 11 | 37 | 11 | 39 | 9 4    |
| 8.7    | 18 | 22 | 11 | 26 | 11 | 30 | 11 | 34 | 11 | 37 | 11 | 40 | 11 | 43 | 11 | 45 | 9 3    |
| 8.8    | 18 | 28 | 11 | 32 | 11 | 36 | 11 | 40 | 11 | 43 | 11 | 46 | 11 | 49 | 11 | 51 | 9 2    |
| 8.9    | 18 | 34 | 11 | 38 | 11 | 42 | 11 | 46 | 11 | 49 | 11 | 52 | 11 | 55 | 11 | 57 | 9 1    |
| 9.0    | 18 | 40 | 11 | 44 | 11 | 48 | 11 | 52 | 11 | 55 | 11 | 58 | 11 | 01 | 11 | 03 | 9 0    |
| 9.1    | 18 | 46 | 11 | 50 | 11 | 54 | 11 | 58 | 11 | 01 | 11 | 04 | 11 | 07 | 11 | 09 | 8 59   |
| 9.2    | 18 | 52 | 11 | 56 | 11 | 00 | 11 | 04 | 11 | 07 | 11 | 10 | 11 | 13 | 11 | 15 | 8 58   |
| 9.3    | 18 | 58 | 11 | 02 | 11 | 06 | 11 | 10 | 11 | 13 | 11 | 16 | 11 | 19 | 11 | 21 | 8 57   |
| 9.4    | 19 | 04 | 11 | 08 | 11 | 12 | 11 | 16 | 11 | 19 | 11 | 22 | 11 | 25 | 11 | 27 | 8 56   |
| 9.5    | 19 | 10 | 11 | 14 | 11 | 18 | 11 | 22 | 11 | 25 | 11 | 28 | 11 | 31 | 11 | 33 | 8 55   |
| 9.6    | 19 | 16 | 11 | 20 | 11 | 24 | 11 | 28 | 11 | 31 | 11 | 34 | 11 | 37 | 11 | 39 | 8 54   |
| 9.7    | 19 | 22 | 11 | 26 | 11 | 30 | 11 | 34 | 11 | 37 | 11 | 40 | 11 | 43 | 11 | 45 | 8 53   |
| 9.8    | 19 | 28 | 11 | 32 | 11 | 36 | 11 | 40 | 11 | 43 | 11 | 46 | 11 | 49 | 11 | 51 | 8 52   |
| 9.9    | 19 | 34 | 11 | 38 | 11 | 42 | 11 | 46 | 11 | 49 | 11 | 52 | 11 | 55 | 11 | 57 | 8 51   |
| 10.0   | 19 | 40 | 11 | 44 | 11 | 48 | 11 | 52 | 11 | 55 | 11 | 58 | 11 | 01 | 11 | 03 | 8 50   |
| 10.1   | 19 | 46 | 11 | 50 | 11 | 54 | 11 | 58 | 11 | 01 | 11 | 04 | 11 | 07 | 11 | 09 | 8 49   |
| 10.2   | 19 | 52 | 11 | 56 | 11 | 00 | 11 | 04 | 11 | 07 | 11 | 10 | 11 | 13 | 11 | 15 | 8 48   |
| 10.3   | 19 | 58 | 11 | 02 | 11 | 06 | 11 |    |    |    |    |    |    |    |    |    |        |

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### Signs

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|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1     | 10 | 11 | 10 | 15 | 10 | 18 | 10 | 21 | 10 | 24 | 10 | 27 | 10 | 30 | 10 | 33 | 7 15 |
| 2     | 10 | 3  | 10 | 7  | 10 | 10 | 13 | 10 | 16 | 10 | 19 | 10 | 21 | 10 | 23 | 10 | 25   |
| 3     | 9  | 50 | 10 | 0  | 10 | 3  | 10 | 6  | 10 | 9  | 10 | 12 | 10 | 14 | 10 | 16 | 7 13 |
| 4     | 9  | 48 | 9  | 52 | 9  | 55 | 9  | 58 | 10 | 1  | 10 | 4  | 10 | 6  | 10 | 8  | 7 12 |
| 5     | 9  | 40 | 9  | 42 | 9  | 47 | 9  | 50 | 9  | 53 | 9  | 56 | 10 | 0  | 10 | 2  | 7 11 |
| 6     | 9  | 32 | 9  | 36 | 9  | 39 | 9  | 42 | 9  | 45 | 9  | 48 | 9  | 50 | 9  | 52 | 7 10 |
| 7     | 9  | 24 | 9  | 28 | 9  | 31 | 9  | 34 | 9  | 37 | 9  | 40 | 9  | 42 | 9  | 44 | 7 9  |
| 8     | 9  | 16 | 9  | 20 | 9  | 23 | 9  | 26 | 9  | 29 | 9  | 32 | 9  | 34 | 9  | 36 | 7 8  |
| 9     | 9  | 8  | 9  | 12 | 9  | 15 | 9  | 18 | 9  | 21 | 9  | 24 | 9  | 26 | 9  | 28 | 7 7  |
| 10    | 8  | 50 | 9  | 3  | 9  | 6  | 9  | 9  | 12 | 9  | 15 | 9  | 17 | 9  | 19 | 9  | 21   |
| 11    | 8  | 51 | 8  | 55 | 8  | 58 | 9  | 1  | 9  | 4  | 9  | 7  | 9  | 9  | 11 | 9  | 13   |
| 12    | 8  | 42 | 8  | 46 | 8  | 49 | 8  | 52 | 8  | 55 | 8  | 58 | 9  | 0  | 9  | 2  | 9 4  |
| 13    | 8  | 33 | 8  | 37 | 8  | 40 | 8  | 43 | 8  | 46 | 8  | 49 | 8  | 51 | 8  | 53 | 9 3  |
| 14    | 8  | 25 | 8  | 29 | 8  | 32 | 8  | 35 | 8  | 38 | 8  | 41 | 8  | 43 | 8  | 45 | 9 2  |
| 15    | 8  | 16 | 8  | 20 | 8  | 23 | 8  | 26 | 8  | 29 | 8  | 32 | 8  | 34 | 8  | 36 | 9 1  |
| 16    | 8  | 7  | 8  | 11 | 8  | 14 | 8  | 17 | 8  | 20 | 8  | 23 | 8  | 25 | 8  | 27 | 8 0  |
| 17    | 7  | 58 | 8  | 2  | 8  | 5  | 8  | 8  | 11 | 8  | 14 | 8  | 16 | 8  | 18 | 8  | 20   |
| 18    | 7  | 49 | 7  | 53 | 7  | 56 | 7  | 59 | 8  | 2  | 8  | 5  | 8  | 7  | 8  | 9  | 7 0  |
| 19    | 7  | 40 | 7  | 44 | 7  | 47 | 7  | 50 | 7  | 53 | 7  | 56 | 7  | 58 | 8  | 0  | 6 0  |
| 20    | 7  | 31 | 7  | 35 | 7  | 38 | 7  | 41 | 7  | 44 | 7  | 47 | 7  | 49 | 7  | 51 | 5 0  |
| 21    | 7  | 22 | 7  | 26 | 7  | 29 | 7  | 32 | 7  | 35 | 7  | 38 | 7  | 40 | 7  | 42 | 4 0  |
| 22    | 7  | 13 | 7  | 17 | 7  | 20 | 7  | 23 | 7  | 26 | 7  | 29 | 7  | 31 | 7  | 33 | 3 0  |
| 23    | 7  | 4  | 7  | 8  | 7  | 11 | 7  | 14 | 7  | 17 | 7  | 20 | 7  | 22 | 7  | 24 | 2 0  |
| 24    | 6  | 55 | 6  | 59 | 6  | 62 | 6  | 65 | 6  | 68 | 6  | 71 | 6  | 73 | 6  | 75 | 1 0  |
| 25    | 6  | 46 | 6  | 50 | 6  | 53 | 6  | 56 | 6  | 59 | 6  | 62 | 6  | 64 | 6  | 66 | 0 0  |
| 26    | 6  | 37 | 6  | 41 | 6  | 44 | 6  | 47 | 6  | 50 | 6  | 53 | 6  | 55 | 6  | 57 | 0 0  |
| 27    | 6  | 28 | 6  | 32 | 6  | 35 | 6  | 38 | 6  | 41 | 6  | 44 | 6  | 46 | 6  | 48 | 0 0  |
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| 29    | 6  | 10 | 6  | 14 | 6  | 17 | 6  | 20 | 6  | 23 | 6  | 26 | 6  | 28 | 6  | 30 | 0 0  |
| 30    | 5  | 58 | 6  | 2  | 6  | 5  | 6  | 8  | 6  | 11 | 6  | 13 | 6  | 15 | 6  | 17 | 0 0  |
| 31    | 5  | 49 | 5  | 53 | 5  | 56 | 5  | 59 | 6  | 1  | 6  | 3  | 6  | 5  | 6  | 7  | 0 0  |
| 32    | 5  | 40 | 5  | 44 | 5  | 47 | 5  | 50 | 5  | 53 | 5  | 56 | 6  | 0  | 6  | 2  | 0 0  |
| 33    | 5  | 31 | 5  | 35 | 5  | 38 | 5  | 41 | 5  | 44 | 5  | 47 | 5  | 50 | 5  | 53 | 0 0  |
| 34    | 5  | 22 | 5  | 26 | 5  | 29 | 5  | 32 | 5  | 35 | 5  | 38 | 5  | 40 | 5  | 42 | 0 0  |
| 35    | 5  | 13 | 5  | 17 | 5  | 20 | 5  | 23 | 5  | 26 | 5  | 29 | 5  | 31 | 5  | 33 | 0 0  |
| 36    | 5  | 4  | 5  | 8  | 5  | 11 | 5  | 14 | 5  | 17 | 5  | 20 | 5  | 22 | 5  | 24 | 0 0  |
| 37    | 4  | 55 | 5  | 59 | 5  | 62 | 5  | 65 | 5  | 68 | 5  | 71 | 5  | 73 | 5  | 75 | 0 0  |
| 38    | 4  | 46 | 4  | 50 | 4  | 53 | 4  | 56 | 4  | 59 | 4  | 62 | 4  | 64 | 4  | 66 | 0 0  |
| 39    | 4  | 37 | 4  | 41 | 4  | 44 | 4  | 47 | 4  | 50 | 4  | 53 | 4  | 55 | 4  | 57 | 0 0  |
| 40    | 4  | 28 | 4  | 32 | 4  | 35 | 4  | 38 | 4  | 41 | 4  | 44 | 4  | 46 | 4  | 48 | 0 0  |
| 41    | 4  | 19 | 4  | 23 | 4  | 26 | 4  | 29 | 4  | 32 | 4  | 35 | 4  | 37 | 4  | 39 | 0 0  |
| 42    | 4  | 10 | 4  | 14 | 4  | 17 | 4  | 20 | 4  | 23 | 4  | 26 | 4  | 28 | 4  | 30 | 0 0  |
| 43    | 3  | 58 | 4  | 2  | 4  | 5  | 4  | 8  | 4  | 11 | 4  | 13 | 4  | 15 | 4  | 17 | 0 0  |
| 44    | 3  | 49 | 3  | 53 | 3  | 56 | 3  | 59 | 4  | 1  | 4  | 3  | 4  | 5  | 4  | 6  | 0 0  |
| 45    | 3  | 40 | 3  | 44 | 3  | 47 | 3  | 50 | 3  | 53 | 3  | 56 | 4  | 0  | 4  | 2  | 0 0  |
| 46    | 3  | 31 | 3  | 35 | 3  | 38 | 3  | 41 | 3  | 44 | 3  | 47 | 3  | 50 | 3  | 53 | 0 0  |
| 47    | 3  | 22 | 3  | 26 | 3  | 29 | 3  | 32 | 3  | 35 | 3  | 38 | 3  | 40 | 3  | 42 | 0 0  |
| 48    | 3  | 13 | 3  | 17 | 3  | 20 | 3  | 23 | 3  | 26 | 3  | 29 | 3  | 31 | 3  | 33 | 0 0  |
| 49    | 3  | 4  | 3  | 8  | 3  | 11 | 3  | 14 | 3  | 17 | 3  | 20 | 3  | 22 | 3  | 24 | 0 0  |
| 50    | 2  | 55 | 3  | 59 | 3  | 62 | 3  | 65 | 3  | 68 | 3  | 71 | 3  | 73 | 3  | 75 | 0 0  |
| 51    | 2  | 46 | 2  | 50 | 2  | 53 | 2  | 56 | 2  | 59 | 2  | 62 | 2  | 64 | 2  | 66 | 0 0  |
| 52    | 2  | 37 | 2  | 41 | 2  | 44 | 2  | 47 | 2  | 50 | 2  | 53 | 2  | 55 | 2  | 57 | 0 0  |
| 53    | 2  | 28 | 2  | 32 | 2  | 35 | 2  | 38 | 2  | 41 | 2  | 44 | 2  | 46 | 2  | 48 | 0 0  |
| 54    | 2  | 19 | 2  | 23 | 2  | 26 | 2  | 29 | 2  | 32 | 2  | 35 | 2  | 37 | 2  | 39 | 0 0  |
| 55    | 2  | 10 | 2  | 14 | 2  | 17 | 2  | 20 | 2  | 23 | 2  | 26 | 2  | 28 | 2  | 30 | 0 0  |
| 56    | 1  | 58 | 1  | 2  | 1  | 5  | 1  | 8  | 1  | 11 | 1  | 13 | 1  | 15 | 1  | 17 | 0 0  |
| 57    | 1  | 49 | 1  | 53 | 1  | 56 | 1  | 59 | 1  | 62 | 1  | 64 | 1  | 66 | 1  | 68 | 0 0  |
| 58    | 1  | 40 | 1  | 44 | 1  | 47 | 1  | 50 | 1  | 53 | 1  | 56 | 1  | 58 | 1  | 60 | 0 0  |
| 59    | 1  | 31 | 1  | 35 | 1  | 38 | 1  | 41 | 1  | 44 | 1  | 47 | 1  | 50 | 1  | 53 | 0 0  |
| 60    | 1  | 22 | 1  | 26 | 1  | 29 | 1  | 32 | 1  | 35 | 1  | 38 | 1  | 40 | 1  | 42 | 0 0  |
| 61    | 1  | 13 | 1  | 17 | 1  | 20 | 1  | 23 | 1  | 26 | 1  | 29 | 1  | 31 | 1  | 33 | 0 0  |
| 62    | 1  | 4  | 1  | 8  | 1  | 11 | 1  | 14 | 1  | 17 | 1  | 20 | 1  | 22 | 1  | 24 | 0 0  |
| 63    | 0  | 55 | 0  | 59 | 0  | 62 | 0  | 65 | 0  | 68 | 0  | 71 | 0  | 73 | 0  | 75 | 0 0  |
| 64    | 0  | 46 | 0  | 50 | 0  | 53 | 0  | 56 | 0  | 59 | 0  | 62 | 0  | 64 | 0  | 66 | 0 0  |
| 65    | 0  | 37 | 0  | 41 | 0  | 44 | 0  | 47 | 0  | 50 | 0  | 53 | 0  | 55 | 0  | 57 | 0 0  |
| 66    | 0  | 28 | 0  | 32 | 0  | 35 | 0  | 38 | 0  | 41 | 0  | 44 | 0  | 46 | 0  | 48 | 0 0  |
| 67    | 0  | 19 | 0  | 23 | 0  | 26 | 0  | 29 | 0  | 32 | 0  | 35 | 0  | 37 | 0  | 39 | 0 0  |
| 68    | 0  | 10 | 0  | 14 | 0  | 17 | 0  | 20 | 0  | 23 | 0  | 26 | 0  | 28 | 0  | 30 | 0 0  |
| 69    | 0  | 1  | 0  | 5  | 0  | 8  | 0  | 11 | 0  | 13 | 0  | 15 | 0  | 17 | 0  | 19 | 0 0  |
| 70    | 0  | 0  | 0  | 4  | 0  | 7  | 0  | 10 | 0  | 12 | 0  | 14 | 0  | 16 | 0  | 18 | 0 0  |
| 71    | 0  | 0  | 0  | 3  | 0  | 6  | 0  | 9  | 0  | 11 | 0  | 13 | 0  | 15 | 0  | 17 | 0 0  |
| 72    | 0  | 0  | 0  | 2  | 0  | 5  | 0  | 8  | 0  | 10 | 0  | 12 | 0  | 14 | 0  | 16 | 0 0  |
| 73    | 0  | 0  | 0  | 1  | 0  | 4  | 0  | 7  | 0  | 9  | 0  | 11 | 0  | 13 | 0  | 15 | 0 0  |
| 74    | 0  | 0  | 0  | 0  | 0  | 3  | 0  | 6  | 0  | 8  | 0  | 10 | 0  | 12 | 0  | 14 | 0 0  |
| 75    | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 5  | 0  | 7  | 0  | 9  | 0  | 11 | 0  | 13 | 0 0  |
| 76    | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 4  | 0  | 6  | 0  | 8  | 0  | 10 | 0  | 12 | 0 0  |
| 77    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3  | 0  | 5  | 0  | 7  | 0  | 9  | 0  | 11 | 0 0  |
| 78    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 4  | 0  | 6  | 0  | 8  | 0  | 10 | 0 0  |
| 79    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 3  | 0  | 5  | 0  | 7  | 0  | 9  | 0 0  |
| 80    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 4  | 0  | 6  | 0  | 8  | 0 0  |
| 81    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 3  | 0  | 5  | 0  | 7  | 0 0  |
| 82    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 4  | 0  | 6  | 0 0  |
| 83    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 3  | 0  | 5  | 0 0  |
| 84    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 4  | 0 0  |
| 85    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 3  | 0 0  |
| 86    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 0 0  |
| 87    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0 0  |
| 88    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 0  |
| 89    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 0  |
| 90    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 0  |

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| 17    | 11 52 | 11 51 | 11 50 | 11 48 | 11 46 | 11 44 | 11 42 | 11 40 | 11 37 | 11 34 | 11 31 | 11 27 | 11 23 | 11 19 | 11 15 | 11 10 | 10 13 |
| 18    | 11 58 | 11 57 | 11 56 | 11 54 | 11 52 | 11 50 | 11 48 | 11 46 | 11 43 | 11 40 | 11 37 | 11 33 | 11 29 | 11 25 | 11 21 | 11 16 | 10 12 |
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| 21    | 12 16 | 12 15 | 12 14 | 12 12 | 12 10 | 12 8  | 12 6  | 12 4  | 12 1  | 11 58 | 11 55 | 11 51 | 11 47 | 11 43 | 11 39 | 11 34 | 10 9  |
| 22    | 12 22 | 12 21 | 12 20 | 12 18 | 12 16 | 12 14 | 12 12 | 12 10 | 12 7  | 12 4  | 12 1  | 11 57 | 11 53 | 11 49 | 11 45 | 11 40 | 10 8  |
| 23    | 12 28 | 12 27 | 12 26 | 12 24 | 12 22 | 12 20 | 12 18 | 12 16 | 12 13 | 12 10 | 12 7  | 12 3  | 11 59 | 11 55 | 11 51 | 11 46 | 10 7  |
| 24    | 12 34 | 12 33 | 12 32 | 12 30 | 12 28 | 12 26 | 12 24 | 12 22 | 12 19 | 12 16 | 12 13 | 12 9  | 12 5  | 12 1  | 11 57 | 11 52 | 10 6  |
| 25    | 12 38 | 12 37 | 12 36 | 12 34 | 12 32 | 12 30 | 12 28 | 12 26 | 12 23 | 12 20 | 12 17 | 12 14 | 12 10 | 12 6  | 12 2  | 11 57 | 10 5  |
| 26    | 12 41 | 12 40 | 12 39 | 12 37 | 12 35 | 12 33 | 12 31 | 12 29 | 12 26 | 12 23 | 12 20 | 12 17 | 12 13 | 12 9  | 12 5  | 12 1  | 10 4  |
| 27    | 12 48 | 12 47 | 12 46 | 12 44 | 12 42 | 12 40 | 12 38 | 12 36 | 12 33 | 12 30 | 12 27 | 12 24 | 12 20 | 12 16 | 12 12 | 12 7  | 10 3  |
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| 6     | 13 27 | 13 26 | 13 25 | 13 23 | 13 21 | 13 19 | 13 17 | 13 15 | 13 13 | 13 11 | 13 9  | 13 7  | 13 5  | 13 3  | 13 1  | 12 49 | 9 53  |
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| 12    | 13 46 | 13 45 | 13 44 | 13 43 | 13 41 | 13 39 | 13 37 | 13 35 | 13 33 | 13 31 | 13 29 | 13 27 | 13 25 | 13 23 | 13 21 | 13 1  | 9 47  |
| 13    | 13 49 | 13 48 | 13 47 | 13 46 | 13 44 | 13 42 | 13 40 | 13 38 | 13 36 | 13 34 | 13 32 | 13 30 | 13 28 | 13 26 | 13 24 | 13 1  | 9 46  |
| 14    | 13 52 | 13 51 | 13 50 | 13 49 | 13 47 | 13 45 | 13 43 | 13 41 | 13 39 | 13 37 | 13 35 | 13 33 | 13 31 | 13 29 | 13 27 | 13 1  | 9 45  |
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| 18    | 14 7  | 14 6  | 14 5  | 14 4  | 14 3  | 14 2  | 14 1  | 14 0  | 13 58 | 13 56 | 13 54 | 13 52 | 13 50 | 13 48 | 13 46 | 13 1  | 9 41  |
| 19    | 14 11 | 14 10 | 14 9  | 14 8  | 14 7  | 14 6  | 14 5  | 14 4  | 14 3  | 14 2  | 14 1  | 14 0  | 13 58 | 13 56 | 13 54 | 13 1  | 9 40  |
| 20    | 14 15 | 14 14 | 14 13 | 14 12 | 14 11 | 14 10 | 14 9  | 14 8  | 14 7  | 14 6  | 14 5  | 14 4  | 14 3  | 14 2  | 14 1  | 14 0  | 9 39  |
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| 26    | 14 39 | 14 38 | 14 37 | 14 36 | 14 35 | 14 34 | 14 33 | 14 32 | 14 31 | 14 30 | 14 29 | 14 28 | 14 27 | 14 26 | 14 25 | 14 24 | 9 33  |
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| 1     | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 15 0  | 9 28  |

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| 1    | 13 | 56 | 13 | 55 | 13 | 54 | 13 | 53 | 13 | 48 | 13 | 46 | 13 | 43 | 13 | 40 | 7    |
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| 4    | 13 | 53 | 13 | 52 | 13 | 51 | 13 | 50 | 13 | 45 | 13 | 43 | 13 | 40 | 13 | 37 | 10   |
| 5    | 13 | 52 | 13 | 51 | 13 | 50 | 13 | 49 | 13 | 44 | 13 | 42 | 13 | 39 | 13 | 36 | 11   |
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| 9    | 13 | 48 | 13 | 47 | 13 | 46 | 13 | 45 | 13 | 40 | 13 | 38 | 13 | 35 | 13 | 32 | 15   |
| 10   | 13 | 47 | 13 | 46 | 13 | 45 | 13 | 44 | 13 | 39 | 13 | 37 | 13 | 34 | 13 | 31 | 16   |
| 11   | 13 | 46 | 13 | 45 | 13 | 44 | 13 | 43 | 13 | 38 | 13 | 36 | 13 | 33 | 13 | 30 | 17   |
| 12   | 13 | 45 | 13 | 44 | 13 | 43 | 13 | 42 | 13 | 37 | 13 | 35 | 13 | 32 | 13 | 29 | 18   |
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| 14   | 13 | 43 | 13 | 42 | 13 | 41 | 13 | 40 | 13 | 35 | 13 | 33 | 13 | 30 | 13 | 27 | 20   |
| 15   | 13 | 42 | 13 | 41 | 13 | 40 | 13 | 39 | 13 | 34 | 13 | 32 | 13 | 29 | 13 | 26 | 21   |
| 16   | 13 | 41 | 13 | 40 | 13 | 39 | 13 | 38 | 13 | 33 | 13 | 31 | 13 | 28 | 13 | 25 | 22   |
| 17   | 13 | 40 | 13 | 39 | 13 | 38 | 13 | 37 | 13 | 32 | 13 | 30 | 13 | 27 | 13 | 24 | 23   |
| 18   | 13 | 39 | 13 | 38 | 13 | 37 | 13 | 36 | 13 | 31 | 13 | 29 | 13 | 26 | 13 | 23 | 24   |
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| 22   | 13 | 35 | 13 | 34 | 13 | 33 | 13 | 32 | 13 | 27 | 13 | 25 | 13 | 22 | 13 | 19 | 28   |
| 23   | 13 | 34 | 13 | 33 | 13 | 32 | 13 | 31 | 13 | 26 | 13 | 24 | 13 | 21 | 13 | 18 | 29   |
| 24   | 13 | 33 | 13 | 32 | 13 | 31 | 13 | 30 | 13 | 25 | 13 | 23 | 13 | 20 | 13 | 17 | 30   |
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| 27   | 13 | 30 | 13 | 29 | 13 | 28 | 13 | 27 | 13 | 22 | 13 | 20 | 13 | 17 | 13 | 14 | 33   |
| 28   | 13 | 29 | 13 | 28 | 13 | 27 | 13 | 26 | 13 | 21 | 13 | 19 | 13 | 16 | 13 | 13 | 34   |
| 29   | 13 | 28 | 13 | 27 | 13 | 26 | 13 | 25 | 13 | 20 | 13 | 18 | 13 | 15 | 13 | 12 | 35   |
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| Tab  | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 26    | 28   | 30   | Tab  | Sta  |
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| 4 22 | 9 42  | 9 41  | 9 40  | 9 39  | 9 38  | 9 36  | 9 34  | 9 32  | 9 30  | 9 27  | 9 24  | 9 21  | 9 18  | 9 15  | 9 11 | 9 7  | 7 8  | 4 22 |
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| 4 28 | 8 51  | 8 50  | 8 49  | 8 48  | 8 47  | 8 45  | 8 43  | 8 41  | 8 39  | 8 36  | 8 33  | 8 30  | 8 27  | 8 24  | 8 20 | 8 16 | 7 2  | 4 28 |
| 4 29 | 8 42  | 8 41  | 8 40  | 8 39  | 8 38  | 8 36  | 8 34  | 8 32  | 8 30  | 8 27  | 8 25  | 8 22  | 8 19  | 8 16  | 8 12 | 8 8  | 7 1  | 4 29 |
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| 5 9  | 7 10  | 7 9   | 7 8   | 7 7   | 7 6   | 7 5   | 7 3   | 7 1   | 6 59  | 6 56  | 6 54  | 6 51  | 6 48  | 6 45  | 6 41 | 6 37 | 6 21 | 5 9  |
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| 5 12 | 6 42  | 6 41  | 6 40  | 6 39  | 6 38  | 6 37  | 6 35  | 6 33  | 6 31  | 6 28  | 6 26  | 6 23  | 6 20  | 6 17  | 6 13 | 6 9  | 6 18 | 5 12 |
| 5 13 | 6 33  | 6 32  | 6 31  | 6 30  | 6 29  | 6 28  | 6 26  | 6 24  | 6 22  | 6 19  | 6 17  | 6 14  | 6 11  | 6 8   | 6 4  | 6 0  | 6 17 | 5 13 |
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| 5 21 | 5 15  | 5 14  | 5 13  | 5 12  | 5 11  | 5 10  | 5 8   | 5 6   | 5 4   | 5 1   | 4 59  | 4 56  | 4 53  | 4 50  | 4 46 | 4 42 | 6 9  | 5 21 |
| 5 22 | 5 5   | 5 4   | 5 3   | 5 2   | 5 1   | 5 0   | 4 58  | 4 56  | 4 54  | 4 51  | 4 49  | 4 46  | 4 43  | 4 40  | 4 36 | 4 32 | 6 8  | 5 22 |
| 5 23 | 4 55  | 4 54  | 4 53  | 4 52  | 4 51  | 4 50  | 4 48  | 4 46  | 4 44  | 4 41  | 4 39  | 4 36  | 4 33  | 4 30  | 4 26 | 4 22 | 6 7  | 5 23 |
| 5 24 | 4 45  | 4 44  | 4 43  | 4 42  | 4 41  | 4 40  | 4 38  | 4 36  | 4 34  | 4 31  | 4 29  | 4 26  | 4 23  | 4 20  | 4 16 | 4 12 | 6 6  | 5 24 |
| 5 25 | 4 36  | 4 35  | 4 34  | 4 33  | 4 32  | 4 31  | 4 29  | 4 27  | 4 25  | 4 22  | 4 20  | 4 17  | 4 14  | 4 11  | 4 7  | 4 3  | 6 5  | 5 25 |
| 5 26 | 4 26  | 4 25  | 4 24  | 4 23  | 4 22  | 4 21  | 4 19  | 4 17  | 4 15  | 4 12  | 4 10  | 4 7   | 4 4   | 4 1   | 3 57 | 3 53 | 6 4  | 5 26 |
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| 5 29 | 3 56  | 3 55  | 3 54  | 3 53  | 3 52  | 3 51  | 3 49  | 3 47  | 3 45  | 3 42  | 3 40  | 3 37  | 3 34  | 3 31  | 3 27 | 3 23 | 6 1  | 5 29 |
| 6 0  | 3 46  | 3 45  | 3 44  | 3 43  | 3 42  | 3 41  | 3 39  | 3 37  | 3 35  | 3 32  | 3 30  | 3 27  | 3 24  | 3 21  | 3 17 | 3 13 | 6 0  | 6 0  |
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|      | 30    | 28    | 26    | 24    | 22    | 20    | 18    | 16    | 14    | 12    | 10    | 8     | 6     | 4     | 2    | 0    |      |      |

Argumenti Solis

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Signa

# Tabula Distantie Vere Coniunctionis

Signa

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Argumenti Solis

| Signa | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | Signa |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|-------|
| 0 0   | 4 4   | 3 59  | 3 53  | 3 47  | 3 41  | 3 34  | 3 27  | 3 20  | 3 13 | 3 6  | 3 0  | 2 51 | 2 43 | 2 35 | 2 27 | 2 19 | 12 0  |
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| 0 3   | 4 36  | 4 30  | 4 24  | 4 18  | 4 13  | 4 5   | 3 58  | 3 51  | 3 44 | 3 37 | 3 30 | 3 22 | 3 14 | 3 6  | 2 58 | 2 50 | 11 27 |
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| 0 6   | 5 7   | 5 1   | 4 55  | 4 49  | 4 43  | 4 36  | 4 29  | 4 22  | 4 15 | 4 8  | 4 1  | 3 53 | 3 45 | 3 37 | 3 29 | 3 21 | 11 24 |
| 0 7   | 5 18  | 5 12  | 5 6   | 5 0   | 4 54  | 4 47  | 4 40  | 4 33  | 4 26 | 4 19 | 4 12 | 4 4  | 3 56 | 3 48 | 3 40 | 3 32 | 11 23 |
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| 1 14  | 10 50 | 10 45 | 10 39 | 10 33 | 10 27 | 10 20 | 10 13 | 10 6  | 9 59 | 9 52 | 9 45 | 9 38 | 9 30 | 9 23 | 9 15 | 9 7  | 10 16 |
| 1 15  | 10 56 | 10 51 | 10 45 | 10 39 | 10 33 | 10 27 | 10 20 | 10 13 | 10 6 | 9 59 | 9 52 | 9 45 | 9 37 | 9 30 | 9 22 | 9 14 | 10 15 |
|       | 16    | 14    | 12    | 10    | 8     | 6     | 4     | 2     | 0    |      |      |      |      |      |      |      |       |

Argumenti Solis

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Signa

## 10

Argumenti Solis

**Signal**

# Tabula Distantie Vere Coniunctionis

Signa

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Argumenti Solis

| Sta  | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 26    | 28    | 30    | du   |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Sta  | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24    | 26    | 28    | 30    | du   |
| 3 0  | 13 18 | 13 13 | 13 8  | 13 3  | 12 57 | 12 51 | 12 45 | 12 39 | 12 33 | 12 26 | 12 20 | 12 13 | 12 6  | 11 59 | 11 52 | 11 44 | 9 0  |
| 3 1  | 13 17 | 13 12 | 13 7  | 13 2  | 12 56 | 12 50 | 12 44 | 12 38 | 12 32 | 12 25 | 12 19 | 12 12 | 12 5  | 11 58 | 11 51 | 11 43 | 8 29 |
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| 3 3  | 13 15 | 13 10 | 13 5  | 13 0  | 12 54 | 12 48 | 12 42 | 12 36 | 12 30 | 12 23 | 12 17 | 12 10 | 12 3  | 11 56 | 11 49 | 11 41 | 8 27 |
| 3 4  | 13 14 | 13 9  | 13 4  | 12 59 | 12 53 | 12 47 | 12 41 | 12 35 | 12 29 | 12 22 | 12 16 | 12 9  | 12 2  | 11 55 | 11 48 | 11 40 | 8 26 |
| 3 5  | 13 13 | 13 8  | 13 3  | 12 58 | 12 52 | 12 46 | 12 40 | 12 34 | 12 28 | 12 21 | 12 15 | 12 8  | 12 1  | 11 54 | 11 47 | 11 39 | 8 25 |
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| 3 7  | 13 11 | 13 4  | 12 59 | 12 54 | 12 48 | 12 42 | 12 36 | 12 30 | 12 24 | 12 17 | 12 11 | 12 4  | 11 57 | 11 50 | 11 43 | 11 36 | 8 23 |
| 3 8  | 13 10 | 13 3  | 12 57 | 12 52 | 12 46 | 12 40 | 12 34 | 12 28 | 12 22 | 12 15 | 12 9  | 12 2  | 11 55 | 11 48 | 11 41 | 11 34 | 8 22 |
| 3 9  | 13 9  | 13 2  | 12 56 | 12 51 | 12 45 | 12 39 | 12 33 | 12 27 | 12 21 | 12 14 | 12 8  | 12 1  | 11 54 | 11 47 | 11 40 | 11 33 | 8 21 |
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| 3 11 | 13 7  | 12 56 | 12 51 | 12 45 | 12 40 | 12 34 | 12 28 | 12 22 | 12 16 | 12 9  | 12 3  | 11 56 | 11 49 | 11 42 | 11 35 | 11 28 | 8 19 |
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| 3 13 | 12 54 | 12 49 | 12 44 | 12 39 | 12 34 | 12 28 | 12 22 | 12 16 | 12 10 | 12 3  | 11 57 | 11 50 | 11 43 | 11 36 | 11 29 | 11 22 | 8 17 |
| 3 14 | 12 51 | 12 46 | 12 41 | 12 36 | 12 31 | 12 25 | 12 19 | 12 13 | 12 7  | 12 0  | 11 54 | 11 47 | 11 40 | 11 33 | 11 26 | 11 19 | 8 16 |
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| 3 16 | 12 44 | 12 39 | 12 34 | 12 29 | 12 24 | 12 18 | 12 12 | 12 6  | 12 0  | 11 54 | 11 48 | 11 41 | 11 34 | 11 27 | 11 20 | 11 13 | 8 14 |
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| 3 19 | 12 33 | 12 28 | 12 23 | 12 18 | 12 13 | 12 7  | 12 1  | 11 55 | 11 49 | 11 43 | 11 37 | 11 30 | 11 23 | 11 16 | 11 9  | 11 2  | 8 11 |
| 3 20 | 12 29 | 12 24 | 12 19 | 12 14 | 12 9  | 12 3  | 11 57 | 11 51 | 11 45 | 11 39 | 11 33 | 11 26 | 11 19 | 11 12 | 11 5  | 10 58 | 8 10 |
| 3 21 | 12 25 | 12 20 | 12 15 | 12 10 | 12 5  | 11 59 | 11 53 | 11 47 | 11 41 | 11 35 | 11 29 | 11 22 | 11 15 | 11 8  | 11 1  | 10 54 | 8 9  |
| 3 22 | 12 21 | 12 16 | 12 11 | 12 6  | 12 1  | 11 55 | 11 49 | 11 43 | 11 37 | 11 31 | 11 25 | 11 18 | 11 11 | 11 4  | 10 57 | 10 50 | 8 8  |
| 3 23 | 12 17 | 12 12 | 12 7  | 12 2  | 11 57 | 11 51 | 11 45 | 11 39 | 11 33 | 11 27 | 11 21 | 11 14 | 11 7  | 11 0  | 10 53 | 10 46 | 8 7  |
| 3 24 | 12 12 | 12 7  | 12 2  | 11 57 | 11 51 | 11 45 | 11 40 | 11 34 | 11 28 | 11 22 | 11 16 | 11 9  | 11 2  | 10 55 | 10 48 | 10 41 | 8 6  |
| 3 25 | 12 7  | 12 2  | 11 57 | 11 52 | 11 47 | 11 41 | 11 35 | 11 29 | 11 23 | 11 17 | 11 11 | 11 4  | 10 57 | 10 50 | 10 43 | 10 36 | 8 5  |
| 3 26 | 12 2  | 11 57 | 11 52 | 11 47 | 11 42 | 11 36 | 11 30 | 12 24 | 11 18 | 11 12 | 11 6  | 10 59 | 10 52 | 10 45 | 10 38 | 10 31 | 8 4  |
| 3 27 | 11 56 | 11 51 | 11 46 | 11 41 | 11 36 | 11 30 | 11 24 | 11 19 | 11 13 | 11 7  | 11 1  | 10 54 | 10 47 | 10 40 | 10 33 | 10 26 | 8 3  |
| 3 28 | 11 51 | 11 46 | 11 41 | 11 36 | 11 31 | 11 25 | 11 19 | 11 14 | 11 8  | 11 2  | 10 56 | 10 49 | 10 42 | 10 35 | 10 28 | 10 21 | 8 2  |
| 3 29 | 11 46 | 11 41 | 11 36 | 11 31 | 11 26 | 11 20 | 11 14 | 11 9  | 11 3  | 10 57 | 10 51 | 10 45 | 10 39 | 10 32 | 10 25 | 10 18 | 8 1  |
| 4 0  | 11 40 | 11 35 | 11 30 | 11 25 | 11 20 | 11 14 | 11 8  | 11 3  | 10 57 | 10 51 | 10 45 | 10 39 | 10 32 | 10 25 | 10 18 | 10 11 | 8 0  |
| 4 1  | 11 34 | 11 30 | 11 25 | 11 20 | 11 15 | 11 9  | 11 3  | 10 57 | 10 51 | 10 45 | 10 39 | 10 33 | 10 27 | 10 20 | 10 13 | 10 6  | 7 29 |
| 4 2  | 11 28 | 11 24 | 11 19 | 11 14 | 11 9  | 11 3  | 10 57 | 10 51 | 10 45 | 10 39 | 10 33 | 10 27 | 10 20 | 10 14 | 10 7  | 10 0  | 7 28 |
| 4 3  | 11 22 | 11 18 | 11 13 | 11 8  | 11 3  | 10 57 | 10 51 | 10 45 | 10 39 | 10 33 | 10 27 | 10 21 | 10 14 | 10 8  | 10 1  | 9 54  | 7 27 |
| 4 4  | 11 16 | 11 12 | 11 7  | 11 2  | 10 57 | 10 51 | 10 45 | 10 39 | 10 33 | 10 27 | 10 21 | 10 15 | 10 8  | 10 2  | 9 55  | 9 48  | 7 26 |
| 4 5  | 11 10 | 11 6  | 11 1  | 10 56 | 10 51 | 10 45 | 10 39 | 10 33 | 10 27 | 10 21 | 10 15 | 10 9  | 10 2  | 9 56  | 9 49  | 9 42  | 7 25 |
| 4 6  | 11 4  | 11 0  | 10 55 | 10 50 | 10 45 | 10 39 | 10 33 | 10 27 | 10 21 | 10 15 | 10 9  | 10 3  | 9 56  | 9 50  | 9 43  | 9 36  | 7 24 |
| 4 7  | 10 58 | 10 54 | 10 49 | 10 44 | 10 39 | 10 33 | 10 27 | 10 21 | 10 15 | 10 9  | 10 3  | 9 57  | 9 50  | 9 44  | 9 37  | 9 30  | 7 23 |
| 4 8  | 10 51 | 10 47 | 10 42 | 10 37 | 10 32 | 10 26 | 10 20 | 10 14 | 10 8  | 10 2  | 9 56  | 9 50  | 9 43  | 9 37  | 9 30  | 9 23  | 7 22 |
| 4 9  | 10 44 | 10 40 | 10 35 | 10 30 | 10 25 | 10 19 | 10 13 | 10 8  | 10 2  | 9 56  | 9 50  | 9 44  | 9 37  | 9 31  | 9 24  | 9 17  | 7 21 |
| 4 10 | 10 38 | 10 34 | 10 29 | 10 24 | 10 19 | 10 13 | 10 7  | 10 1  | 9 55  | 9 49  | 9 43  | 9 37  | 9 30  | 9 24  | 9 17  | 9 10  | 7 20 |
| 4 11 | 10 31 | 10 27 | 10 22 | 10 17 | 10 12 | 10 6  | 10 0  | 9 55  | 9 49  | 9 43  | 9 37  | 9 31  | 9 24  | 9 18  | 9 11  | 9 4   | 7 19 |
| 4 12 | 10 24 | 10 20 | 10 15 | 10 10 | 10 5  | 9 59  | 9 53  | 9 48  | 9 42  | 9 36  | 9 30  | 9 24  | 9 17  | 9 11  | 9 4   | 8 57  | 7 18 |
| 4 13 | 10 17 | 10 13 | 10 8  | 10 3  | 9 58  | 9 52  | 9 46  | 9 41  | 9 35  | 9 29  | 9 23  | 9 17  | 9 10  | 9 4   | 8 57  | 8 50  | 7 17 |
| 4 14 | 10 10 | 10 5  | 10 0  | 9 55  | 9 50  | 9 44  | 9 38  | 9 33  | 9 27  | 9 21  | 9 15  | 9 9   | 9 2   | 8 56  | 8 49  | 8 42  | 7 16 |
| 4 15 | 10 2  | 9 58  | 9 53  | 9 48  | 9 43  | 9 37  | 9 31  | 9 26  | 9 20  | 9 14  | 9 8   | 9 2   | 8 55  | 8 48  | 8 41  | 8 34  | 7 15 |
| (1)  | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   | (1)   |      |
| Sta  | 30    | 28    | 26    | 24    | 22    | 20    | 18    | 16    | 14    | 12    | 10    | 8     | 6     | 4     | 2     | 0     | du   |

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|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| Gradu | 5    | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   | Gradu |
| 4 15  | 10   | 2    | 2 58 | 2 53 | 2 48 | 2 43 | 2 37 | 2 31 | 2 26 | 2 20 | 2 14 | 2 8  | 2 2  | 8 55 | 8 47 | 8 42 | 7 15  |
| 4 16  | 9 54 | 2 50 | 2 45 | 2 40 | 2 35 | 2 29 | 2 23 | 2 18 | 2 12 | 2 6  | 2 0  | 8 54 | 8 47 | 8 41 | 8 34 | 8 27 | 7 14  |
| 4 17  | 2 47 | 2 41 | 2 38 | 2 33 | 2 28 | 2 22 | 2 16 | 2 11 | 2 5  | 8 59 | 8 53 | 8 47 | 8 40 | 8 34 | 8 27 | 8 20 | 7 13  |
| 4 18  | 9 49 | 2 45 | 2 40 | 2 35 | 2 30 | 2 24 | 2 18 | 2 13 | 2 7  | 8 58 | 8 51 | 8 45 | 8 39 | 8 32 | 8 26 | 8 19 | 7 12  |
| 4 19  | 9 31 | 2 42 | 2 37 | 2 32 | 2 27 | 2 21 | 2 15 | 2 10 | 2 4  | 8 57 | 8 50 | 8 43 | 8 37 | 8 31 | 8 24 | 8 18 | 7 11  |
| 4 20  | 9 23 | 2 39 | 2 34 | 2 29 | 2 24 | 2 18 | 2 12 | 2 7  | 2 1  | 8 56 | 8 49 | 8 42 | 8 35 | 8 29 | 8 22 | 8 16 | 7 10  |
| 4 21  | 9 15 | 2 36 | 2 31 | 2 26 | 2 21 | 2 15 | 2 10 | 2 4  | 2 0  | 8 55 | 8 48 | 8 41 | 8 34 | 8 28 | 8 21 | 8 15 | 7 9   |
| 4 22  | 9 7  | 2 33 | 2 28 | 2 23 | 2 18 | 2 12 | 2 7  | 2 1  | 2 0  | 8 54 | 8 47 | 8 40 | 8 33 | 8 27 | 8 20 | 8 14 | 7 8   |
| 4 23  | 8 59 | 2 30 | 2 25 | 2 20 | 2 15 | 2 10 | 2 4  | 2 0  | 2 0  | 8 53 | 8 46 | 8 39 | 8 32 | 8 25 | 8 19 | 8 12 | 7 7   |
| 4 24  | 8 50 | 2 27 | 2 22 | 2 17 | 2 12 | 2 7  | 2 1  | 2 0  | 2 0  | 8 52 | 8 45 | 8 38 | 8 31 | 8 24 | 8 18 | 8 11 | 7 6   |
| 4 25  | 8 42 | 2 24 | 2 19 | 2 14 | 2 9  | 2 4  | 2 0  | 2 0  | 2 0  | 8 51 | 8 44 | 8 37 | 8 30 | 8 23 | 8 17 | 8 10 | 7 5   |
| 4 26  | 8 33 | 2 21 | 2 16 | 2 11 | 2 6  | 2 1  | 2 0  | 2 0  | 2 0  | 8 50 | 8 43 | 8 36 | 8 29 | 8 22 | 8 16 | 8 9  | 7 4   |
| 4 27  | 8 25 | 2 18 | 2 13 | 2 8  | 2 3  | 2 0  | 2 0  | 2 0  | 2 0  | 8 49 | 8 42 | 8 35 | 8 28 | 8 21 | 8 15 | 8 8  | 7 3   |
| 4 28  | 8 16 | 2 15 | 2 10 | 2 5  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 48 | 8 41 | 8 34 | 8 27 | 8 20 | 8 14 | 8 7  | 7 2   |
| 4 29  | 8 8  | 2 12 | 2 7  | 2 2  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 47 | 8 40 | 8 33 | 8 26 | 8 19 | 8 13 | 8 6  | 7 1   |
| 5 0   | 7 59 | 2 9  | 2 4  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 46 | 8 39 | 8 32 | 8 25 | 8 18 | 8 12 | 8 5  | 7 0   |
| 5 1   | 7 50 | 2 6  | 2 1  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 45 | 8 38 | 8 31 | 8 24 | 8 17 | 8 11 | 8 4  | 6 59  |
| 5 2   | 7 41 | 2 3  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 44 | 8 37 | 8 30 | 8 23 | 8 16 | 8 10 | 8 3  | 6 58  |
| 5 3   | 7 32 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 43 | 8 36 | 8 29 | 8 22 | 8 15 | 8 9  | 8 2  | 6 57  |
| 5 4   | 7 23 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 42 | 8 35 | 8 28 | 8 21 | 8 14 | 8 8  | 8 1  | 6 56  |
| 5 5   | 7 14 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 41 | 8 34 | 8 27 | 8 20 | 8 13 | 8 7  | 8 0  | 6 55  |
| 5 6   | 7 5  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 40 | 8 33 | 8 26 | 8 19 | 8 12 | 8 6  | 7 59 | 6 54  |
| 5 7   | 6 56 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 39 | 8 32 | 8 25 | 8 18 | 8 11 | 8 5  | 7 50 | 6 53  |
| 5 8   | 6 47 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 38 | 8 31 | 8 24 | 8 17 | 8 10 | 8 4  | 7 41 | 6 52  |
| 5 9   | 6 37 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 37 | 8 30 | 8 23 | 8 16 | 8 9  | 7 59 | 7 32 | 6 51  |
| 5 10  | 6 28 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 36 | 8 29 | 8 22 | 8 15 | 8 8  | 7 50 | 7 23 | 6 50  |
| 5 11  | 6 19 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 35 | 8 28 | 8 21 | 8 14 | 8 7  | 7 41 | 7 14 | 6 49  |
| 5 12  | 6 10 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 34 | 8 27 | 8 20 | 8 13 | 8 6  | 7 32 | 7 5  | 6 48  |
| 5 13  | 6 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 33 | 8 26 | 8 19 | 8 12 | 8 5  | 7 23 | 6 56 | 6 47  |
| 5 14  | 5 50 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 32 | 8 25 | 8 18 | 8 11 | 8 4  | 7 14 | 6 47 | 6 46  |
| 5 15  | 5 40 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 31 | 8 24 | 8 17 | 8 10 | 8 3  | 7 5  | 6 38 | 6 45  |
| 5 16  | 5 31 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 30 | 8 23 | 8 16 | 8 9  | 8 2  | 6 56 | 6 30 | 6 44  |
| 5 17  | 5 21 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 29 | 8 22 | 8 15 | 8 8  | 8 1  | 6 47 | 6 21 | 6 43  |
| 5 18  | 5 11 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 28 | 8 21 | 8 14 | 8 7  | 8 0  | 6 38 | 6 12 | 6 42  |
| 5 19  | 5 2  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 27 | 8 20 | 8 13 | 8 6  | 7 59 | 6 30 | 6 12 | 6 41  |
| 5 20  | 4 52 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 26 | 8 19 | 8 12 | 8 5  | 7 50 | 6 21 | 6 12 | 6 40  |
| 5 21  | 4 42 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 25 | 8 18 | 8 11 | 8 4  | 7 41 | 6 12 | 6 12 | 6 39  |
| 5 22  | 4 32 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 24 | 8 17 | 8 10 | 8 3  | 7 32 | 6 3  | 6 12 | 6 38  |
| 5 23  | 4 22 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 23 | 8 16 | 8 9  | 8 2  | 7 23 | 6 12 | 6 12 | 6 37  |
| 5 24  | 4 12 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 22 | 8 15 | 8 8  | 8 1  | 7 14 | 6 3  | 6 12 | 6 36  |
| 5 25  | 4 2  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 21 | 8 14 | 8 7  | 8 0  | 7 5  | 6 12 | 6 12 | 6 35  |
| 5 26  | 3 51 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 20 | 8 13 | 8 6  | 7 59 | 6 12 | 6 12 | 6 12 | 6 34  |
| 5 27  | 3 41 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 19 | 8 12 | 8 5  | 7 50 | 6 12 | 6 12 | 6 12 | 6 33  |
| 5 28  | 3 31 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 18 | 8 11 | 8 4  | 7 41 | 6 12 | 6 12 | 6 12 | 6 32  |
| 5 29  | 3 21 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 17 | 8 10 | 8 3  | 7 32 | 6 12 | 6 12 | 6 12 | 6 31  |
| 6 0   | 3 11 | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 2 0  | 8 16 | 8 9  | 8 2  | 7 23 | 6 12 | 6 12 | 6 12 | 6 30  |
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|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|-------|
| 0     | 2 19  | 2 11  | 2 2   | 1 53  | 1 44  | 1 35  | 1 25  | 1 16  | 1 7  | 0 57 | 0 48 | 0 38 | 0 28 | 0 19 | 0 10 | 0 0  | 12 0  |
| 1     | 2 30  | 2 22  | 2 13  | 2 4   | 1 55  | 1 46  | 1 36  | 1 27  | 1 18 | 1 8  | 0 59 | 0 49 | 0 39 | 0 30 | 0 21 | 0 11 | 11 29 |
| 2     | 2 40  | 2 32  | 2 23  | 2 14  | 2 5   | 1 56  | 1 44  | 1 37  | 1 28 | 1 18 | 1 9  | 0 59 | 0 49 | 0 40 | 0 31 | 0 21 | 11 28 |
| 3     | 2 50  | 2 42  | 2 33  | 2 24  | 2 15  | 2 6   | 1 56  | 1 47  | 1 38 | 1 28 | 1 19 | 1 10 | 1 0  | 0 51 | 0 42 | 0 32 | 11 27 |
| 4     | 3 1   | 2 53  | 2 44  | 2 35  | 2 26  | 2 17  | 2 7   | 1 58  | 1 49 | 1 39 | 1 30 | 1 20 | 1 10 | 1 1  | 0 52 | 0 42 | 11 26 |
| 5     | 3 11  | 3 3   | 2 54  | 2 45  | 2 36  | 2 27  | 2 17  | 2 8   | 1 59 | 1 49 | 1 40 | 1 31 | 1 21 | 1 12 | 1 3  | 0 53 | 11 25 |
| 6     | 3 21  | 3 13  | 3 4   | 2 55  | 2 46  | 2 37  | 2 27  | 2 18  | 2 9  | 1 59 | 1 50 | 1 41 | 1 31 | 1 22 | 1 13 | 1 3  | 11 24 |
| 7     | 3 32  | 3 24  | 3 15  | 3 6   | 2 57  | 2 48  | 2 38  | 2 29  | 2 30 | 2 10 | 2 1  | 1 52 | 1 42 | 1 33 | 1 24 | 1 14 | 11 23 |
| 8     | 3 42  | 3 34  | 3 25  | 3 16  | 3 7   | 2 58  | 2 48  | 2 39  | 2 30 | 2 20 | 2 11 | 2 2  | 1 52 | 1 43 | 1 34 | 1 24 | 11 22 |
| 9     | 3 52  | 3 44  | 3 35  | 3 26  | 3 17  | 3 8   | 2 58  | 2 49  | 2 40 | 2 30 | 2 21 | 2 12 | 2 2  | 1 53 | 1 44 | 1 34 | 11 21 |
| 10    | 4 3   | 3 55  | 3 46  | 3 37  | 3 28  | 3 19  | 3 9   | 3 0   | 2 51 | 2 41 | 2 32 | 2 23 | 2 13 | 2 4  | 1 55 | 1 45 | 11 20 |
| 11    | 4 13  | 4 5   | 3 56  | 3 47  | 3 38  | 3 29  | 3 19  | 3 10  | 3 1  | 2 51 | 2 42 | 2 33 | 2 23 | 2 14 | 2 5  | 1 55 | 11 19 |
| 12    | 4 23  | 4 15  | 4 6   | 3 57  | 3 48  | 3 39  | 3 29  | 3 20  | 3 11 | 3 1  | 2 52 | 2 43 | 2 33 | 2 24 | 2 15 | 2 5  | 11 18 |
| 13    | 4 33  | 4 25  | 4 16  | 4 7   | 3 58  | 3 49  | 3 39  | 3 30  | 3 21 | 3 11 | 3 2  | 2 53 | 2 44 | 2 34 | 2 25 | 2 5  | 11 17 |
| 14    | 4 43  | 4 35  | 4 26  | 4 17  | 4 8   | 3 59  | 3 49  | 3 40  | 3 31 | 3 21 | 3 12 | 3 3  | 2 53 | 2 44 | 2 35 | 2 25 | 11 16 |
| 15    | 4 53  | 4 45  | 4 36  | 4 27  | 4 18  | 4 9   | 3 59  | 3 50  | 3 41 | 3 31 | 3 22 | 3 13 | 3 3  | 2 54 | 2 45 | 2 35 | 11 15 |
| 16    | 5 3   | 4 55  | 4 46  | 4 37  | 4 28  | 4 19  | 4 9   | 4 0   | 3 51 | 3 41 | 3 32 | 3 23 | 3 13 | 3 4  | 2 55 | 2 45 | 11 14 |
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| 22    | 6 2   | 5 51  | 5 44  | 5 35  | 5 26  | 5 17  | 5 8   | 4 59  | 4 50 | 4 40 | 4 31 | 4 22 | 4 12 | 4 3  | 3 54 | 3 44 | 11 8  |
| 23    | 6 12  | 6 5   | 5 54  | 5 45  | 5 36  | 5 27  | 5 18  | 5 9   | 5 0  | 4 50 | 4 41 | 4 32 | 4 22 | 4 13 | 4 4  | 3 54 | 11 7  |
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| 30    | 7 15  | 7 7   | 6 58  | 6 49  | 6 40  | 6 31  | 6 22  | 6 13  | 6 4  | 5 54 | 5 45 | 5 36 | 5 26 | 5 17 | 5 8  | 4 59 | 11 0  |
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| 2     | 7 32  | 7 24  | 7 15  | 7 6   | 6 57  | 6 48  | 6 39  | 6 30  | 6 21 | 6 12 | 6 3  | 5 54 | 5 44 | 5 35 | 5 26 | 5 16 | 10 28 |
| 3     | 7 41  | 7 33  | 7 24  | 7 15  | 7 6   | 6 57  | 6 48  | 6 39  | 6 30 | 6 20 | 6 11 | 6 2  | 5 52 | 5 43 | 5 34 | 5 25 | 10 27 |
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| 6     | 8 6   | 7 58  | 7 49  | 7 40  | 7 31  | 7 22  | 7 13  | 7 4   | 6 55 | 6 46 | 6 37 | 6 28 | 6 18 | 6 9  | 6 0  | 5 50 | 10 24 |
| 7     | 8 14  | 8 6   | 7 57  | 7 48  | 7 39  | 7 30  | 7 21  | 7 12  | 7 3  | 6 54 | 6 45 | 6 36 | 6 26 | 6 17 | 6 8  | 5 58 | 10 23 |
| 8     | 8 22  | 8 14  | 8 5   | 7 56  | 7 47  | 7 38  | 7 29  | 7 20  | 7 11 | 7 2  | 6 53 | 6 44 | 6 34 | 6 25 | 6 16 | 6 6  | 10 22 |
| 9     | 8 29  | 8 21  | 8 13  | 8 4   | 7 55  | 7 46  | 7 37  | 7 28  | 7 19 | 7 10 | 7 1  | 6 52 | 6 42 | 6 33 | 6 24 | 6 14 | 10 21 |
| 10    | 8 37  | 8 29  | 8 21  | 8 12  | 8 3   | 7 54  | 7 45  | 7 36  | 7 27 | 7 18 | 7 9  | 7 0  | 6 50 | 6 41 | 6 32 | 6 22 | 10 20 |
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Argumenti Solis

| Signa | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24   | 26   | 28   | 30   | duo   |
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| 3 22  | 11 44 | 11 37 |       |       |       |       |       |       |       |       |       |       |      |      |      |      |       |

# Tabula distantie Mere Coniunctionis

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| Arg. | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24   | 26   | 28   | 30   | das  |
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| 25   | 10 35 | 10 29 | 10 22 | 10 14 | 10 6  | 9 50  | 9 51  | 9 44  | 9 36  | 9 28  | 9 20  | 9 12  | 9 4  | 8 56 | 8 48 | 8 40 | 8 5  |
| 26   | 10 31 | 10 24 | 10 17 | 10 9  | 10 2  | 9 54  | 9 46  | 9 39  | 9 31  | 9 23  | 9 15  | 9 7   | 8 50 | 8 51 | 8 43 | 8 35 | 8 4  |
| 27   | 10 26 | 10 19 | 10 12 | 10 4  | 9 57  | 9 49  | 9 41  | 9 34  | 9 26  | 9 18  | 9 10  | 9 2   | 8 54 | 8 46 | 8 38 | 8 30 | 8 3  |
| 28   | 10 21 | 10 14 | 10 7  | 9 59  | 9 52  | 9 44  | 9 36  | 9 29  | 9 21  | 9 13  | 9 5   | 8 57  | 8 49 | 8 41 | 8 33 | 8 25 | 8 2  |
| 29   | 10 16 | 10 9  | 10 2  | 9 54  | 9 47  | 9 39  | 9 31  | 9 24  | 9 16  | 9 8   | 9 0   | 8 52  | 8 44 | 8 36 | 8 28 | 8 20 | 8 1  |
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| 31   | 10 6  | 9 59  | 9 52  | 9 44  | 9 37  | 9 29  | 9 21  | 9 14  | 9 6   | 8 58  | 8 50  | 8 42  | 8 34 | 8 26 | 8 18 | 8 10 | 7 29 |
| 32   | 10 0  | 9 53  | 9 46  | 9 38  | 9 31  | 9 23  | 9 15  | 9 8   | 9 0   | 8 52  | 8 44  | 8 36  | 8 28 | 8 20 | 8 12 | 8 4  | 7 23 |
| 33   | 9 54  | 9 47  | 9 40  | 9 32  | 9 25  | 9 17  | 9 9   | 9 2   | 8 54  | 8 46  | 8 38  | 8 30  | 8 22 | 8 14 | 8 6  | 7 58 | 7 27 |
| 34   | 9 49  | 9 41  | 9 34  | 9 26  | 9 19  | 9 11  | 9 3   | 8 56  | 8 48  | 8 40  | 8 32  | 8 24  | 8 16 | 8 8  | 9 1  | 7 53 | 7 26 |
| 35   | 9 42  | 9 35  | 9 28  | 9 20  | 9 13  | 9 5   | 8 57  | 8 50  | 8 42  | 8 34  | 8 26  | 8 18  | 8 10 | 8 3  | 7 55 | 7 47 | 7 25 |
| 36   | 9 38  | 9 29  | 9 22  | 9 14  | 9 7   | 8 50  | 8 51  | 8 44  | 8 36  | 8 28  | 8 20  | 8 12  | 8 4  | 7 57 | 7 49 | 7 41 | 7 24 |
| 37   | 9 30  | 9 23  | 9 16  | 9 8   | 9 1   | 8 53  | 8 45  | 8 38  | 8 30  | 8 22  | 8 14  | 8 6   | 7 58 | 7 51 | 7 43 | 7 35 | 7 23 |
| 38   | 9 23  | 9 16  | 9 0   | 9 1   | 8 54  | 8 46  | 8 39  | 8 31  | 8 23  | 8 15  | 8 7   | 8 0   | 7 52 | 7 45 | 7 37 | 7 29 | 7 22 |
| 39   | 9 17  | 9 10  | 9 3   | 8 55  | 8 48  | 8 40  | 8 32  | 8 25  | 8 17  | 8 9   | 8 1   | 7 53  | 7 45 | 7 38 | 7 30 | 7 22 | 7 21 |
| 40   | 9 10  | 9 3   | 8 56  | 8 48  | 8 41  | 8 33  | 8 25  | 8 18  | 8 10  | 8 2   | 7 55  | 7 47  | 7 39 | 7 32 | 7 24 | 7 16 | 7 20 |
| 41   | 9 4   | 8 57  | 8 50  | 8 42  | 8 35  | 8 27  | 8 19  | 8 12  | 8 4   | 7 56  | 7 49  | 7 41  | 7 33 | 7 26 | 7 18 | 7 10 | 7 19 |
| 42   | 8 57  | 8 50  | 8 43  | 8 35  | 8 28  | 8 20  | 8 12  | 8 5   | 7 57  | 7 49  | 7 42  | 7 34  | 7 26 | 7 19 | 7 11 | 7 3  | 7 18 |
| 43   | 8 50  | 8 43  | 8 36  | 8 28  | 8 21  | 8 13  | 8 6   | 7 58  | 7 50  | 7 42  | 7 35  | 7 27  | 7 19 | 7 12 | 7 4  | 6 56 | 7 17 |
| 44   | 8 52  | 8 35  | 8 28  | 8 21  | 8 14  | 8 6   | 7 58  | 7 51  | 7 43  | 7 35  | 7 28  | 7 20  | 7 12 | 7 5  | 6 57 | 6 49 | 7 16 |
| 45   | 8 35  | 8 28  | 8 21  | 8 13  | 8 6   | 7 59  | 7 51  | 7 44  | 7 36  | 7 28  | 7 21  | 7 13  | 7 5  | 6 58 | 6 50 | 6 42 | 7 15 |
| 46   | 8 30  | 8 23  | 8 16  | 8 8   | 8 1   | 7 54  | 7 46  | 7 38  | 7 30  | 7 22  | 7 14  | 7 6   | 6 58 | 6 50 | 6 42 | 6 34 | 7 14 |
| 47   | 8 25  | 8 18  | 8 11  | 8 3   | 8 0   | 7 50  | 7 42  | 7 34  | 7 26  | 7 18  | 7 10  | 7 2   | 6 54 | 6 46 | 6 38 | 6 30 | 7 13 |
| 48   | 8 20  | 8 13  | 8 6   | 8 0   | 7 52  | 7 44  | 7 36  | 7 28  | 7 20  | 7 12  | 7 4   | 6 56  | 6 48 | 6 40 | 6 32 | 6 24 | 7 12 |
| 49   | 8 15  | 8 8   | 8 1   | 7 54  | 7 46  | 7 38  | 7 30  | 7 22  | 7 14  | 7 6   | 6 58  | 6 50  | 6 42 | 6 34 | 6 26 | 6 18 | 7 11 |
| 50   | 8 10  | 8 3   | 7 56  | 7 48  | 7 40  | 7 32  | 7 24  | 7 16  | 7 8   | 7 0   | 6 52  | 6 44  | 6 36 | 6 28 | 6 20 | 6 12 | 7 10 |
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| 52   | 8 0   | 7 53  | 7 45  | 7 37  | 7 29  | 7 21  | 7 13  | 7 5   | 6 57  | 6 49  | 6 41  | 6 33  | 6 25 | 6 17 | 6 9  | 6 1  | 7 8  |
| 53   | 7 55  | 7 48  | 7 40  | 7 32  | 7 24  | 7 16  | 7 8   | 7 0   | 6 52  | 6 44  | 6 36  | 6 28  | 6 20 | 6 12 | 6 4  | 6 0  | 7 7  |
| 54   | 7 50  | 7 43  | 7 35  | 7 27  | 7 19  | 7 11  | 7 3   | 6 55  | 6 47  | 6 39  | 6 31  | 6 23  | 6 15 | 6 7  | 5 59 | 5 51 | 7 6  |
| 55   | 7 45  | 7 38  | 7 30  | 7 22  | 7 14  | 7 6   | 6 58  | 6 50  | 6 42  | 6 34  | 6 26  | 6 18  | 6 10 | 6 2  | 5 54 | 5 46 | 7 5  |
| 56   | 7 40  | 7 33  | 7 25  | 7 17  | 7 9   | 7 1   | 6 53  | 6 45  | 6 37  | 6 29  | 6 21  | 6 13  | 6 5  | 5 57 | 5 49 | 5 41 | 7 4  |
| 57   | 7 35  | 7 28  | 7 20  | 7 12  | 7 4   | 6 56  | 6 48  | 6 40  | 6 32  | 6 24  | 6 16  | 6 8   | 6 0  | 5 52 | 5 44 | 5 36 | 7 3  |
| 58   | 7 30  | 7 23  | 7 15  | 7 7   | 6 59  | 6 51  | 6 43  | 6 35  | 6 27  | 6 19  | 6 11  | 6 3   | 5 55 | 5 47 | 5 39 | 5 31 | 7 2  |
| 59   | 7 25  | 7 18  | 7 10  | 7 2   | 6 54  | 6 46  | 6 38  | 6 30  | 6 22  | 6 14  | 6 6   | 5 58  | 5 50 | 5 42 | 5 34 | 5 26 | 7 1  |
| 60   | 7 20  | 7 13  | 7 5   | 6 57  | 6 49  | 6 41  | 6 33  | 6 25  | 6 17  | 6 9   | 6 1   | 5 53  | 5 45 | 5 37 | 5 29 | 5 21 | 7 0  |
| 61   | 7 15  | 7 8   | 7 0   | 6 52  | 6 44  | 6 36  | 6 28  | 6 20  | 6 12  | 6 4   | 5 56  | 5 48  | 5 40 | 5 32 | 5 24 | 5 16 | 6 59 |
| 62   | 7 10  | 7 3   | 6 55  | 6 47  | 6 39  | 6 31  | 6 23  | 6 15  | 6 7   | 5 59  | 5 51  | 5 43  | 5 35 | 5 27 | 5 19 | 5 11 | 6 58 |
| 63   | 7 5   | 6 58  | 6 50  | 6 42  | 6 34  | 6 26  | 6 18  | 6 10  | 6 2   | 5 54  | 5 46  | 5 38  | 5 30 | 5 22 | 5 14 | 5 6  | 6 57 |
| 64   | 7 0   | 6 53  | 6 45  | 6 37  | 6 29  | 6 21  | 6 13  | 6 5   | 5 57  | 5 49  | 5 41  | 5 33  | 5 25 | 5 17 | 5 9  | 5 1  | 6 56 |
| 65   | 6 55  | 6 48  | 6 40  | 6 32  | 6 24  | 6 16  | 6 8   | 6 0   | 5 52  | 5 44  | 5 36  | 5 28  | 5 20 | 5 12 | 5 4  | 5 0  | 6 55 |
| 66   | 6 50  | 6 43  | 6 35  | 6 27  | 6 19  | 6 11  | 6 3   | 5 55  | 5 47  | 5 39  | 5 31  | 5 23  | 5 15 | 5 7  | 4 59 | 4 51 | 6 54 |
| 67   | 6 45  | 6 38  | 6 30  | 6 22  | 6 14  | 6 6   | 5 58  | 5 50  | 5 42  | 5 34  | 5 26  | 5 18  | 5 10 | 5 2  | 4 54 | 4 46 | 6 53 |
| 68   | 6 40  | 6 33  | 6 25  | 6 17  | 6 9   | 6 1   | 5 53  | 5 45  | 5 37  | 5 29  | 5 21  | 5 13  | 5 5  | 4 57 | 4 49 | 4 41 | 6 52 |
| 69   | 6 35  | 6 28  | 6 20  | 6 12  | 6 4   | 5 56  | 5 48  | 5 40  | 5 32  | 5 24  | 5 16  | 5 8   | 5 0  | 4 52 | 4 44 | 4 36 | 6 51 |
| 70   | 6 30  | 6 23  | 6 15  | 6 7   | 5 59  | 5 51  | 5 43  | 5 35  | 5 27  | 5 19  | 5 11  | 5 3   | 4 55 | 4 47 | 4 39 | 4 31 | 6 50 |
| 71   | 6 25  | 6 18  | 6 10  | 6 2   | 5 54  | 5 46  | 5 38  | 5 30  | 5 22  | 5 14  | 5 6   | 4 58  | 4 50 | 4 42 | 4 34 | 4 26 | 6 49 |
| 72   | 6 20  | 6 13  | 6 5   | 6 57  | 6 49  | 6 41  | 6 33  | 6 25  | 6 17  | 6 9   | 6 1   | 4 53  | 4 45 | 4 37 | 4 29 | 4 21 | 6 48 |
| 73   | 6 15  | 6 8   | 6 0   | 6 52  |       |       |       |       |       |       |       |       |      |      |      |      |      |

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Argumenti Solis



| Oris | 0    | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | duo  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Oris | 0    | 2    | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 20   | 22   | 24   | 26   | 28   | 30   | duo  |
| 15   | 8 35 | 8 28 | 8 21 | 8 13 | 8 6  | 7 59 | 7 51 | 7 44 | 7 36 | 7 28 | 7 21 | 7 13 | 7 5  | 6 58 | 6 50 | 6 43 | 7 15 |
| 16   | 8 27 | 8 20 | 8 13 | 8 6  | 7 59 | 7 52 | 7 45 | 7 37 | 7 29 | 7 21 | 7 14 | 7 6  | 6 58 | 6 51 | 6 43 | 6 35 | 7 14 |
| 17   | 8 20 | 8 13 | 8 6  | 7 59 | 7 52 | 7 45 | 7 37 | 7 30 | 7 22 | 7 14 | 7 7  | 6 59 | 6 51 | 6 44 | 6 36 | 6 28 | 7 13 |
| 18   | 8 12 | 8 5  | 7 58 | 7 51 | 7 44 | 7 37 | 7 29 | 7 22 | 7 14 | 7 6  | 6 59 | 6 51 | 6 43 | 6 36 | 6 28 | 6 20 | 7 12 |
| 19   | 8 5  | 7 58 | 7 51 | 7 44 | 7 37 | 7 29 | 7 21 | 7 14 | 7 6  | 6 58 | 6 51 | 6 43 | 6 35 | 6 28 | 6 21 | 6 13 | 7 11 |
| 20   | 7 57 | 7 50 | 7 43 | 7 36 | 7 29 | 7 21 | 7 13 | 7 6  | 6 58 | 6 50 | 6 43 | 6 35 | 6 27 | 6 20 | 6 13 | 6 5  | 7 10 |
| 21   | 7 50 | 7 42 | 7 35 | 7 28 | 7 21 | 7 13 | 7 5  | 6 58 | 6 50 | 6 42 | 6 35 | 6 27 | 6 19 | 6 12 | 6 5  | 5 57 | 7 9  |
| 22   | 7 41 | 7 34 | 7 27 | 7 20 | 7 13 | 7 5  | 6 57 | 6 50 | 6 42 | 6 34 | 6 27 | 6 19 | 6 11 | 6 4  | 5 57 | 5 49 | 7 8  |
| 23   | 7 33 | 7 26 | 7 19 | 7 12 | 7 5  | 6 57 | 6 49 | 6 42 | 6 34 | 6 26 | 6 19 | 6 11 | 6 3  | 5 56 | 5 48 | 5 41 | 7 7  |
| 24   | 7 25 | 7 18 | 7 11 | 7 4  | 6 57 | 6 49 | 6 41 | 6 34 | 6 26 | 6 18 | 6 11 | 6 3  | 5 55 | 5 48 | 5 41 | 5 33 | 7 6  |
| 25   | 7 17 | 7 10 | 7 3  | 6 56 | 6 49 | 6 41 | 6 33 | 6 26 | 6 18 | 6 10 | 6 3  | 5 55 | 5 47 | 5 40 | 5 33 | 5 25 | 7 5  |
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| 27   | 7 0  | 6 53 | 6 46 | 6 39 | 6 32 | 6 24 | 6 16 | 6 9  | 6 1  | 5 53 | 5 46 | 5 38 | 5 30 | 5 23 | 5 16 | 5 8  | 7 3  |
| 28   | 6 51 | 6 44 | 6 37 | 6 30 | 6 23 | 6 16 | 6 8  | 6 1  | 5 53 | 5 45 | 5 38 | 5 30 | 5 22 | 5 15 | 5 7  | 4 59 | 7 2  |
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| 30   | 6 34 | 6 27 | 6 20 | 6 13 | 6 6  | 5 59 | 5 51 | 5 46 | 5 38 | 5 28 | 5 21 | 5 13 | 5 5  | 4 58 | 4 50 | 4 42 | 7 0  |
| 1    | 6 25 | 6 18 | 6 11 | 6 4  | 5 57 | 5 50 | 5 42 | 5 35 | 5 28 | 5 20 | 5 13 | 5 5  | 4 57 | 4 50 | 4 42 | 4 34 | 6 59 |
| 2    | 6 16 | 6 9  | 6 2  | 5 55 | 5 48 | 5 40 | 5 33 | 5 26 | 5 19 | 5 11 | 5 4  | 4 56 | 4 48 | 4 41 | 4 33 | 4 25 | 6 58 |
| 3    | 6 7  | 6 0  | 5 53 | 5 46 | 5 39 | 5 32 | 5 24 | 5 17 | 5 10 | 5 2  | 4 55 | 4 47 | 4 39 | 4 32 | 4 24 | 4 16 | 6 57 |
| 4    | 5 58 | 5 51 | 5 44 | 5 37 | 5 30 | 5 23 | 5 15 | 5 8  | 5 1  | 4 54 | 4 46 | 4 38 | 4 30 | 4 23 | 4 15 | 4 7  | 6 56 |
| 5    | 5 50 | 5 43 | 5 35 | 5 28 | 5 21 | 5 14 | 5 6  | 4 59 | 4 52 | 4 44 | 4 37 | 4 29 | 4 21 | 4 14 | 4 6  | 4 58 | 6 55 |
| 6    | 5 41 | 5 34 | 5 26 | 5 19 | 5 12 | 5 5  | 4 57 | 4 50 | 4 43 | 4 35 | 4 28 | 4 20 | 4 12 | 4 5  | 3 57 | 3 49 | 6 54 |
| 7    | 5 33 | 5 26 | 5 17 | 5 10 | 5 3  | 4 56 | 4 49 | 4 41 | 4 34 | 4 26 | 4 19 | 4 11 | 4 3  | 3 56 | 3 48 | 3 40 | 6 53 |
| 8    | 5 24 | 5 17 | 5 8  | 5 1  | 4 54 | 4 47 | 4 39 | 4 32 | 4 25 | 4 17 | 4 10 | 4 2  | 3 54 | 3 47 | 3 39 | 3 31 | 6 52 |
| 9    | 5 15 | 5 8  | 4 58 | 4 51 | 4 44 | 4 37 | 4 29 | 4 22 | 4 15 | 4 7  | 4 0  | 3 52 | 3 44 | 3 37 | 3 30 | 3 22 | 6 51 |
| 10   | 5 6  | 4 59 | 4 49 | 4 42 | 4 35 | 4 28 | 4 20 | 4 13 | 4 6  | 3 58 | 3 51 | 3 43 | 3 35 | 3 28 | 3 21 | 3 13 | 6 50 |
| 11   | 4 57 | 4 47 | 4 40 | 4 33 | 4 26 | 4 19 | 4 11 | 4 4  | 3 57 | 3 49 | 3 42 | 3 34 | 3 26 | 3 19 | 3 12 | 3 4  | 6 49 |
| 12   | 4 48 | 4 37 | 4 30 | 4 23 | 4 16 | 4 9  | 4 1  | 3 54 | 3 47 | 3 39 | 3 32 | 3 24 | 3 16 | 3 9  | 3 2  | 2 54 | 6 48 |
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| 14   | 4 30 | 4 18 | 4 11 | 4 4  | 3 57 | 3 50 | 3 42 | 3 35 | 3 28 | 3 20 | 3 13 | 3 5  | 2 57 | 2 50 | 2 43 | 2 35 | 6 46 |
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| 16   | 4 12 | 3 59 | 3 52 | 3 45 | 3 38 | 3 31 | 3 23 | 3 16 | 3 9  | 3 1  | 2 54 | 2 46 | 2 38 | 2 31 | 2 24 | 2 16 | 6 44 |
| 17   | 4 3  | 3 50 | 3 43 | 3 36 | 3 29 | 3 22 | 3 14 | 3 7  | 3 0  | 2 52 | 2 45 | 2 37 | 2 29 | 2 22 | 2 15 | 2 7  | 6 43 |
| 18   | 3 47 | 3 40 | 3 33 | 3 26 | 3 19 | 3 12 | 3 4  | 2 57 | 2 50 | 2 42 | 2 35 | 2 27 | 2 19 | 2 12 | 2 5  | 1 57 | 6 42 |
| 19   | 3 38 | 3 31 | 3 24 | 3 17 | 3 10 | 3 3  | 2 55 | 2 48 | 2 41 | 2 33 | 2 26 | 2 18 | 2 10 | 2 3  | 1 56 | 1 48 | 6 41 |
| 20   | 3 28 | 3 21 | 3 14 | 3 7  | 3 0  | 2 53 | 2 46 | 2 38 | 2 31 | 2 23 | 2 16 | 2 8  | 2 0  | 1 53 | 1 46 | 1 38 | 6 40 |
| 21   | 3 18 | 3 11 | 3 4  | 4 57 | 2 50 | 2 43 | 2 35 | 2 28 | 2 21 | 2 13 | 2 6  | 1 58 | 1 50 | 1 43 | 1 36 | 1 28 | 6 39 |
| 22   | 3 8  | 3 2  | 2 55 | 2 48 | 2 41 | 2 34 | 2 26 | 2 19 | 2 12 | 2 4  | 1 57 | 1 49 | 1 41 | 1 34 | 1 27 | 1 19 | 6 38 |
| 23   | 2 58 | 2 52 | 2 45 | 2 38 | 2 31 | 2 24 | 2 16 | 2 9  | 2 2  | 1 54 | 1 47 | 1 39 | 1 31 | 1 24 | 1 17 | 1 9  | 6 37 |
| 24   | 2 48 | 2 42 | 2 35 | 2 28 | 2 21 | 2 14 | 2 6  | 1 59 | 1 52 | 1 44 | 1 37 | 1 29 | 1 21 | 1 14 | 1 7  | 0 59 | 6 36 |
| 25   | 2 39 | 2 33 | 2 26 | 2 19 | 2 12 | 2 5  | 1 57 | 1 50 | 1 43 | 1 35 | 1 28 | 1 20 | 1 12 | 1 5  | 0 58 | 0 50 | 6 35 |
| 26   | 2 29 | 2 23 | 2 16 | 2 9  | 2 2  | 1 55 | 1 47 | 1 40 | 1 33 | 1 25 | 1 18 | 1 10 | 1 2  | 0 55 | 0 48 | 0 40 | 6 34 |
| 27   | 2 19 | 2 13 | 2 6  | 1 59 | 1 52 | 1 45 | 1 37 | 1 30 | 1 23 | 1 15 | 1 8  | 1 0  | 0 52 | 0 45 | 0 38 | 0 30 | 6 33 |
| 28   | 2 9  | 2 3  | 1 56 | 1 49 | 1 42 | 1 35 | 1 27 | 1 20 | 1 13 | 1 5  | 0 58 | 0 50 | 0 42 | 0 35 | 0 28 | 0 20 | 6 32 |
| 29   | 1 59 | 1 53 | 1 46 | 1 39 | 1 32 | 1 25 | 1 17 | 1 10 | 1 3  | 0 55 | 0 48 | 0 40 | 0 32 | 0 25 | 0 18 | 0 10 | 6 31 |
| 0    | 1 49 | 1 43 | 1 36 | 1 29 | 1 22 | 1 15 | 1 7  | 1 0  | 0 53 | 0 45 | 0 38 | 0 30 | 0 22 | 0 15 | 0 8  | 0 0  | 6 30 |
| Oris | 30   | 28   | 26   | 24   | 22   | 20   | 18   | 16   | 14   | 12   | 10   | 8    | 6    | 4    | 2    | 0    | duo  |

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# Tabula distantie Vere Confectionis

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Argumenti Solis

| 22   | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24   | 26   | 28   | 30   | don  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 22   | 0     | 2     | 4     | 6     | 8     | 10    | 12    | 14    | 16    | 18    | 20    | 22    | 24   | 26   | 28   | 30   | don  |
| 3 0  | 11 44 | 11 37 | 11 29 | 11 21 | 11 13 | 11 5  | 10 56 | 10 48 | 10 40 | 10 31 | 10 23 | 10 14 | 10 5 | 9 57 | 9 49 | 9 40 | 9 9  |
| 3 1  | 11 44 | 11 36 | 11 28 | 11 20 | 11 12 | 11 4  | 10 56 | 10 48 | 10 40 | 10 31 | 10 21 | 10 14 | 10 5 | 9 57 | 9 49 | 9 40 | 8 29 |
| 3 2  | 11 42 | 11 35 | 11 27 | 11 19 | 11 11 | 11 3  | 10 55 | 10 47 | 10 39 | 10 30 | 10 22 | 10 13 | 10 4 | 9 56 | 9 48 | 9 39 | 8 28 |
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| 3 7  | 11 36 | 11 29 | 11 21 | 11 13 | 11 5  | 10 50 | 10 49 | 10 41 | 10 33 | 10 24 | 10 16 | 10 8  | 9 52 | 9 51 | 9 43 | 9 34 | 8 23 |
| 3 8  | 11 34 | 11 27 | 11 19 | 11 11 | 11 3  | 10 50 | 10 47 | 10 39 | 10 31 | 10 22 | 10 14 | 10 6  | 9 51 | 9 49 | 9 41 | 9 32 | 8 22 |
| 3 9  | 11 32 | 11 25 | 11 17 | 11 9  | 11 1  | 10 51 | 10 45 | 10 37 | 10 29 | 10 20 | 10 12 | 10 4  | 9 50 | 9 47 | 9 39 | 9 30 | 8 21 |
| 3 10 | 11 31 | 11 23 | 11 15 | 11 7  | 10 50 | 10 48 | 10 40 | 10 32 | 10 24 | 10 15 | 10 10 | 10 2  | 9 50 | 9 45 | 9 37 | 9 28 | 8 20 |
| 3 11 | 11 28 | 11 21 | 11 13 | 11 5  | 10 50 | 10 49 | 10 41 | 10 33 | 10 25 | 10 16 | 10 8  | 10 0  | 9 51 | 9 48 | 9 40 | 9 31 | 8 19 |
| 3 12 | 11 25 | 11 18 | 11 10 | 11 2  | 10 50 | 10 46 | 10 38 | 10 30 | 10 22 | 10 14 | 10 6  | 9 50  | 9 49 | 9 41 | 9 33 | 9 24 | 8 18 |
| 3 13 | 11 22 | 11 15 | 11 7  | 10 50 | 10 51 | 10 43 | 10 35 | 10 27 | 10 19 | 10 11 | 10 3  | 9 50  | 9 46 | 9 38 | 9 30 | 9 21 | 8 17 |
| 3 14 | 11 19 | 11 12 | 11 4  | 10 50 | 10 48 | 10 40 | 10 32 | 10 24 | 10 16 | 10 8  | 10 0  | 9 50  | 9 44 | 9 36 | 9 27 | 9 19 | 8 16 |
| 3 15 | 11 16 | 11 9  | 11 1  | 10 51 | 10 45 | 10 37 | 10 29 | 10 21 | 10 13 | 10 5  | 9 50  | 9 49  | 9 40 | 9 32 | 9 24 | 9 16 | 8 15 |
| 3 16 | 11 13 | 11 6  | 10 58 | 10 50 | 10 42 | 10 34 | 10 26 | 10 18 | 10 10 | 10 2  | 9 50  | 9 46  | 9 37 | 9 29 | 9 21 | 9 13 | 8 14 |
| 3 17 | 11 10 | 11 3  | 10 55 | 10 47 | 10 39 | 10 31 | 10 23 | 10 15 | 10 7  | 9 50  | 9 51  | 9 41  | 9 36 | 9 26 | 9 18 | 9 10 | 8 13 |
| 3 18 | 11 6  | 10 59 | 10 52 | 10 44 | 10 36 | 10 28 | 10 20 | 10 12 | 10 4  | 9 50  | 9 48  | 9 40  | 9 31 | 9 23 | 9 15 | 9 7  | 8 12 |
| 3 19 | 11 2  | 10 55 | 10 48 | 10 40 | 10 32 | 10 24 | 10 16 | 10 8  | 10 0  | 9 52  | 9 44  | 9 36  | 9 28 | 9 20 | 9 12 | 9 4  | 8 11 |
| 3 20 | 10 58 | 10 51 | 10 44 | 10 36 | 10 28 | 10 20 | 10 12 | 10 4  | 9 50  | 9 48  | 9 40  | 9 32  | 9 24 | 9 16 | 9 8  | 9 0  | 8 10 |
| 3 21 | 10 54 | 10 47 | 10 40 | 10 32 | 10 24 | 10 16 | 10 8  | 10 0  | 9 52  | 9 44  | 9 36  | 9 28  | 9 20 | 9 12 | 9 4  | 8 56 | 8 9  |
| 3 22 | 10 50 | 10 43 | 10 36 | 10 28 | 10 20 | 10 12 | 10 4  | 9 50  | 9 48  | 9 40  | 9 32  | 9 24  | 9 16 | 9 8  | 9 0  | 8 52 | 8 8  |
| 3 23 | 10 46 | 10 39 | 10 32 | 10 24 | 10 16 | 10 8  | 10 0  | 9 52  | 9 44  | 9 36  | 9 28  | 9 20  | 9 12 | 9 4  | 8 56 | 8 48 | 8 7  |
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| 3 26 | 10 31 | 10 24 | 10 17 | 10 9  | 10 2  | 9 50  | 9 46  | 9 38  | 9 31  | 9 23  | 9 15  | 9 7   | 8 56 | 8 51 | 8 43 | 8 35 | 8 4  |
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| 3 28 | 10 21 | 10 14 | 10 7  | 9 50  | 9 52  | 9 44  | 9 36  | 9 29  | 9 21  | 9 13  | 9 5   | 8 57  | 8 49 | 8 41 | 8 33 | 8 25 | 8 2  |
| 3 29 | 10 16 | 10 9  | 2     | 9 50  | 9 47  | 9 39  | 9 31  | 9 24  | 9 16  | 9 8   | 9 0   | 8 52  | 8 44 | 8 36 | 8 28 | 8 20 | 8 1  |
| 3 30 | 10 11 | 10 4  | 9 57  | 9 42  | 9 34  | 9 26  | 9 19  | 9 11  | 9 3   | 8 55  | 8 47  | 8 39  | 8 31 | 8 23 | 8 15 | 8 7  | 0    |
| 4 0  | 10 6  | 9 50  | 9 52  | 9 44  | 9 37  | 9 29  | 9 21  | 9 14  | 9 6   | 8 58  | 8 50  | 8 42  | 8 34 | 8 26 | 8 18 | 8 10 | 7 29 |
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| 4 6  | 9 30  | 9 23  | 9 16  | 9 8   | 9 1   | 8 53  | 8 45  | 8 38  | 8 30  | 8 22  | 8 14  | 8 6   | 7 58 | 7 51 | 7 43 | 7 35 | 7 23 |
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| 4 11 | 8 57  | 8 50  | 8 41  | 8 35  | 8 28  | 8 20  | 8 12  | 8 5   | 7 57  | 7 49  | 7 42  | 7 34  | 7 26 | 7 19 | 7 11 | 7 3  | 7 18 |
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| 4 13 | 8 42  | 8 35  | 8 28  | 8 21  | 8 14  | 8 6   | 7 58  | 7 51  | 7 43  | 7 35  | 7 28  | 7 20  | 7 12 | 7 5  | 6 57 | 6 49 | 7 16 |
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| 4 15 | 8 28  | 8 21  | 8 13  | 8 6   | 7 59  | 7 51  | 7 44  | 7 36  | 7 28  | 7 21  | 7 13  | 7 5   | 6 58 | 6 50 | 6 42 | 6 34 | 7 14 |
| 4 16 | 8 21  | 8 13  | 8 6   | 7 59  | 7 51  | 7 44  | 7 36  | 7 28  | 7 21  | 7 13  | 7 5   | 6 58  | 6 50 | 6 42 | 6 34 | 6 26 | 7 13 |
| 4 17 | 8 14  | 8 6   | 7 59  | 7 51  | 7 44  | 7 36  | 7 28  | 7 21  | 7 13  | 7 5   | 6 58  | 6 50  | 6 42 | 6 34 | 6 26 | 6 18 | 7 12 |
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| 4 27 | 7 4   | 6 56  | 6 48  | 6 40  | 6 32  | 6 24  | 6 16  | 6 8   | 6 30  | 6 22  | 6 14  | 6 6   | 6 28 | 6 20 | 6 12 | 6 4  | 7 2  |
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| 4 33 | 6 22  | 6 14  | 6 6   | 6 28  | 6 20  | 6 12  | 6 4   | 6 26  | 6 18  | 6 10  | 6 2   | 6 34  | 6 26 | 6 18 | 6 10 | 6 2  | 6 56 |
| 4 34 | 6 15  | 6 7   | 6 29  | 6 21  | 6 13  | 6 5   | 6 27  | 6 19  | 6 11  | 6 3   | 6 25  | 6 17  | 6 9  | 6 31 | 6 23 | 6 15 | 6 55 |
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| 4 39 | 6 10  | 6 2   | 6 34  | 6 26  | 6 18  | 6 10  | 6 2   | 6 34  | 6 26  | 6 18  | 6 10  | 6 2   | 6 30 |      |      |      |      |



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| 6 0  | 1 39 | 1 43 | 1 36 | 1 29 | 1 22 | 1 15 | 1 7  | 1 0  | 0 51 | 0 45 | 0 38 | 0 30 | 0 22 | 0 15 | 0 8  | 0 0  | 6 0  |
| Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  |
| Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  |
| Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  | Die  |

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# Tabula mediorū motuū In annis completis.

| Ad triūm<br>Radice<br>Incarna<br>tionis. | Solis. |    |    |    | Lunc. |    |    |    | Argumenti Lunc. |    |    |    | Capite Draconis |    |    |    |
|--|--------|----|----|----|-------|----|----|----|-----------------|----|----|----|-----------------|----|----|----|
|  | o      | g  | m  | fa | o     | g  | m  | fa | o               | g  | m  | fa | o               | g  | m  | fa |
| 1440                                     | 9      | 18 | 32 | 30 | 0     | 18 | 35 | 29 | 5               | 29 | 26 | 19 | 7               | 13 | 45 | 8  |
| 1450                                     | 9      | 19 | 1  | 19 | 5     | 2  | 9  | 47 | 7               | 9  | 20 | 45 | 8               | 10 | 24 | 59 |

| Annū completū. | o  | g  | m  | fa | o  | g  | m  | fa | o  | g  | m  | fa | o  | g  | m  | fa |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1              | 11 | 29 | 45 | 39 | 4  | 9  | 23 | 3  | 2  | 28 | 43 | 15 | 0  | 19 | 19 | 42 |
| 2              | 11 | 29 | 31 | 19 | 8  | 18 | 46 | 5  | 5  | 27 | 26 | 30 | 1  | 18 | 39 | 24 |
| 3              | 11 | 29 | 16 | 58 | 0  | 28 | 9  | 8  | 8  | 26 | 9  | 44 | 1  | 27 | 59 | 6  |
| 4              | 0  | 0  | 1  | 46 | 5  | 20 | 42 | 46 | 0  | 7  | 56 | 53 | 2  | 17 | 21 | 58 |
| 5              | 11 | 29 | 47 | 25 | 10 | 0  | 5  | 48 | 3  | 6  | 40 | 8  | 3  | 6  | 41 | 40 |
| 6              | 11 | 29 | 33 | 5  | 2  | 9  | 28 | 51 | 6  | 5  | 23 | 23 | 3  | 26 | 1  | 22 |
| 7              | 11 | 29 | 18 | 44 | 6  | 18 | 51 | 51 | 9  | 4  | 6  | 38 | 4  | 15 | 21 | 4  |
| 8              | 0  | 0  | 3  | 32 | 11 | 11 | 25 | 31 | 0  | 15 | 51 | 47 | 5  | 4  | 43 | 56 |
| 9              | 11 | 29 | 49 | 11 | 3  | 20 | 48 | 34 | 3  | 14 | 37 | 1  | 5  | 24 | 3  | 38 |
| 10             | 11 | 29 | 34 | 50 | 8  | 0  | 11 | 36 | 6  | 13 | 20 | 16 | 6  | 13 | 23 | 20 |
| 11             | 11 | 29 | 20 | 40 | 0  | 9  | 34 | 39 | 9  | 12 | 3  | 31 | 7  | 2  | 43 | 2  |
| 12             | 0  | 0  | 5  | 17 | 5  | 2  | 8  | 17 | 0  | 23 | 50 | 40 | 7  | 22 | 5  | 55 |
| 13             | 11 | 29 | 50 | 57 | 9  | 11 | 31 | 19 | 3  | 22 | 33 | 55 | 8  | 11 | 25 | 37 |
| 14             | 11 | 29 | 16 | 36 | 1  | 20 | 54 | 22 | 6  | 21 | 17 | 9  | 9  | 0  | 45 | 19 |
| 15             | 11 | 29 | 22 | 15 | 6  | 0  | 17 | 24 | 9  | 20 | 0  | 24 | 9  | 20 | 5  | 0  |
| 16             | 0  | 0  | 7  | 3  | 10 | 22 | 51 | 2  | 1  | 1  | 47 | 33 | 10 | 9  | 27 | 53 |
| 17             | 11 | 29 | 52 | 43 | 3  | 2  | 14 | 5  | 4  | 0  | 30 | 48 | 10 | 28 | 47 | 37 |
| 18             | 11 | 29 | 38 | 22 | 7  | 11 | 37 | 7  | 6  | 29 | 14 | 3  | 11 | 18 | 7  | 17 |
| 19             | 11 | 29 | 24 | 1  | 11 | 21 | 0  | 10 | 9  | 27 | 57 | 18 | 0  | 7  | 26 | 59 |
| 20             | 0  | 0  | 8  | 49 | 4  | 13 | 33 | 48 | 1  | 9  | 44 | 26 | 0  | 26 | 49 | 51 |
| 40             | 0  | 0  | 17 | 18 | 8  | 27 | 7  | 35 | 2  | 19 | 28 | 53 | 1  | 23 | 39 | 42 |
| 60             | 0  | 0  | 26 | 27 | 1  | 10 | 41 | 23 | 3  | 29 | 13 | 19 | 2  | 20 | 29 | 36 |
| 80             | 0  | 0  | 35 | 16 | 5  | 24 | 15 | 10 | 5  | 8  | 57 | 45 | 3  | 17 | 19 | 25 |
| 100            | 0  | 0  | 44 | 5  | 10 | 7  | 48 | 58 | 6  | 18 | 42 | 12 | 4  | 14 | 9  | 16 |
| 200            | 0  | 1  | 28 | 10 | 8  | 15 | 37 | 56 | 1  | 7  | 24 | 23 | 8  | 28 | 18 | 32 |
| 300            | 0  | 2  | 12 | 15 | 6  | 23 | 26 | 53 | 7  | 26 | 6  | 35 | 1  | 12 | 27 | 48 |
| 400            | 0  | 2  | 56 | 20 | 5  | 1  | 15 | 51 | 2  | 14 | 48 | 47 | 5  | 26 | 37 | 4  |
| 500            | 0  | 3  | 40 | 24 | 3  | 9  | 4  | 49 | 9  | 3  | 30 | 58 | 10 | 10 | 46 | 20 |
| 600            | 0  | 4  | 24 | 29 | 1  | 16 | 57 | 47 | 3  | 22 | 13 | 10 | 2  | 24 | 55 | 36 |
| 700            | 0  | 5  | 8  | 34 | 11 | 24 | 42 | 45 | 10 | 10 | 55 | 22 | 7  | 9  | 4  | 52 |
| 800            | 0  | 5  | 52 | 39 | 10 | 2  | 31 | 42 | 4  | 29 | 37 | 33 | 11 | 21 | 14 | 8  |
| 900            | 0  | 6  | 36 | 44 | 8  | 10 | 20 | 40 | 11 | 18 | 19 | 45 | 4  | 7  | 23 | 24 |
| 1000           | 0  | 7  | 20 | 49 | 6  | 18 | 9  | 38 | 6  | 7  | 1  | 52 | 8  | 21 | 12 | 40 |

## Menses communes.

|           | o  | g  | m  | fa | o  | g  | m  | fa | o  | g  | m  | fa | o | g  | m  | fa |
|-----------|----|----|----|----|----|----|----|----|----|----|----|----|---|----|----|----|
| Januari.  | 1  | 0  | 33 | 18 | 1  | 18 | 28 | 6  | 1  | 15 | 0  | 53 | 0 | 1  | 38 | 30 |
| Februari. | 1  | 28 | 9  | 11 | 1  | 27 | 24 | 26 | 1  | 20 | 50 | 4  | 0 | 3  | 7  | 27 |
| Martius.  | 2  | 28 | 42 | 29 | 3  | 15 | 52 | 32 | 3  | 5  | 50 | 56 | 0 | 4  | 45 | 57 |
| Aprilis.  | 3  | 28 | 16 | 39 | 4  | 21 | 10 | 3  | 4  | 7  | 47 | 55 | 0 | 6  | 21 | 16 |
| Maius.    | 4  | 28 | 49 | 57 | 6  | 9  | 38 | 8  | 5  | 22 | 48 | 48 | 0 | 7  | 59 | 44 |
| Iunius.   | 5  | 28 | 24 | 7  | 7  | 14 | 55 | 39 | 6  | 24 | 45 | 46 | 0 | 9  | 35 | 5  |
| Julius.   | 6  | 28 | 57 | 25 | 9  | 3  | 23 | 44 | 8  | 9  | 46 | 39 | 0 | 11 | 13 | 35 |
| Augustus. | 7  | 29 | 10 | 43 | 10 | 21 | 51 | 50 | 9  | 24 | 47 | 32 | 0 | 12 | 52 | 4  |
| Septem̄.  | 8  | 29 | 4  | 53 | 11 | 27 | 9  | 21 | 10 | 26 | 44 | 31 | 0 | 14 | 27 | 21 |
| October.  | 9  | 29 | 38 | 11 | 1  | 15 | 37 | 26 | 0  | 11 | 45 | 23 | 0 | 16 | 5  | 51 |
| Novem̄.   | 10 | 29 | 12 | 21 | 2  | 20 | 54 | 57 | 1  | 13 | 42 | 22 | 0 | 17 | 41 | 12 |
| December. | 11 | 29 | 45 | 39 | 4  | 9  | 23 | 3  | 2  | 28 | 43 | 15 | 0 | 19 | 19 | 42 |

# Continuatio tabule precedentis.

## Menses Bifertiles.

|           | Solis. |    |    |    | Lune. |    |    |    | Argumenti Lune. |   |    |    | Capitis duodecimo |    |   |    |
|-----------|--------|----|----|----|-------|----|----|----|-----------------|---|----|----|-------------------|----|---|----|
|           | ā      | g  | m  | fa | ā     | g  | m  | fa | ā               | g | m  | fa | ā                 | g  | m | fa |
| Januari.  | 1      | 0  | 31 | 18 |       | 1  | 18 | 28 | 6               |   | 1  | 15 | 0                 | 51 |   |    |
| Februari. | 1      | 29 | 8  | 19 |       | 2  | 10 | 35 | 1               |   | 2  | 3  | 53                | 58 |   |    |
| Martius.  | 2      | 29 | 41 | 37 |       | 3  | 29 | 3  | 7               |   | 3  | 18 | 54                | 50 |   |    |
| Aprilis.  | 3      | 29 | 15 | 47 |       | 4  | 9  | 20 | 37              |   | 4  | 20 | 51                | 49 |   |    |
| Maius.    | 4      | 29 | 49 | 5  |       | 6  | 22 | 48 | 43              |   | 6  | 5  | 52                | 42 |   |    |
| Junius.   | 5      | 29 | 23 | 15 |       | 7  | 28 | 6  | 14              |   | 7  | 7  | 49                | 40 |   |    |
| Julius.   | 6      | 29 | 56 | 33 |       | 9  | 16 | 34 | 19              |   | 8  | 22 | 50                | 33 |   |    |
| Augustus. | 8      | 0  | 29 | 51 |       | 11 | 15 | 2  | 25              |   | 10 | 7  | 51                | 26 |   |    |
| Septemb.  | 9      | 0  | 4  | 1  |       | 0  | 10 | 19 | 56              |   | 11 | 9  | 48                | 25 |   |    |
| October.  | 10     | 0  | 37 | 19 |       | 1  | 28 | 48 | 1               |   | 0  | 24 | 49                | 12 |   |    |
| Novemb.   | 11     | 0  | 11 | 29 |       | 3  | 4  | 5  | 32              |   | 1  | 26 | 46                | 16 |   |    |
| December. | 0      | 0  | 44 | 47 |       | 4  | 22 | 33 | 38              |   | 3  | 11 | 47                | 9  |   |    |

## In diebus.

| Dies. | ā | g  | m  | fa | ā  | g  | m  | fa | ā  | g  | m  | fa | ā  | g | m  | fa |    |
|-------|---|----|----|----|----|----|----|----|----|----|----|----|----|---|----|----|----|
| 1     | 0 | 0  | 59 | 8  | 0  | 13 | 10 | 35 | 0  | 13 | 3  | 54 | 0  | 0 | 3  | 11 |    |
| 2     | 0 | 0  | 1  | 58 | 17 | 0  | 26 | 21 | 10 | 0  | 26 | 7  | 48 | 0 | 0  | 3  | 22 |
| 3     | 0 | 2  | 57 | 25 | 1  | 9  | 11 | 45 | 1  | 9  | 11 | 42 | 0  | 0 | 9  | 32 |    |
| 4     | 0 | 3  | 56 | 33 | 1  | 22 | 42 | 20 | 1  | 22 | 15 | 36 | 0  | 0 | 12 | 43 |    |
| 5     | 0 | 4  | 55 | 42 | 2  | 5  | 52 | 55 | 2  | 5  | 19 | 30 | 0  | 0 | 15 | 53 |    |
| 6     | 0 | 5  | 54 | 50 | 2  | 19 | 3  | 30 | 2  | 18 | 23 | 24 | 0  | 0 | 19 | 4  |    |
| 7     | 0 | 6  | 53 | 58 | 3  | 2  | 14 | 5  | 3  | 1  | 27 | 18 | 0  | 0 | 22 | 14 |    |
| 8     | 0 | 7  | 51 | 7  | 3  | 15 | 24 | 40 | 3  | 14 | 31 | 12 | 0  | 0 | 25 | 25 |    |
| 9     | 0 | 8  | 52 | 15 | 3  | 28 | 35 | 15 | 3  | 27 | 35 | 6  | 0  | 0 | 28 | 36 |    |
| 10    | 0 | 9  | 51 | 23 | 4  | 11 | 45 | 50 | 4  | 10 | 39 | 0  | 0  | 0 | 31 | 46 |    |
| 11    | 0 | 10 | 50 | 32 | 4  | 24 | 56 | 25 | 4  | 23 | 42 | 54 | 0  | 0 | 34 | 57 |    |
| 12    | 0 | 11 | 49 | 40 | 5  | 8  | 7  | 0  | 5  | 6  | 46 | 47 | 0  | 0 | 38 | 8  |    |
| 13    | 0 | 12 | 48 | 48 | 5  | 21 | 17 | 35 | 5  | 19 | 50 | 41 | 0  | 0 | 41 | 18 |    |
| 14    | 0 | 13 | 47 | 57 | 6  | 4  | 28 | 10 | 6  | 2  | 54 | 35 | 0  | 0 | 44 | 29 |    |
| 15    | 0 | 14 | 47 | 5  | 6  | 17 | 38 | 45 | 6  | 15 | 58 | 29 | 0  | 0 | 47 | 40 |    |
| 16    | 0 | 15 | 46 | 13 | 7  | 0  | 49 | 20 | 6  | 29 | 2  | 23 | 0  | 0 | 50 | 50 |    |
| 17    | 0 | 16 | 45 | 22 | 7  | 13 | 59 | 55 | 7  | 12 | 6  | 17 | 0  | 0 | 54 | 1  |    |
| 18    | 0 | 17 | 44 | 30 | 7  | 27 | 10 | 30 | 7  | 25 | 10 | 11 | 0  | 0 | 57 | 11 |    |
| 19    | 0 | 18 | 43 | 38 | 8  | 10 | 21 | 5  | 8  | 8  | 14 | 5  | 0  | 1 | 0  | 22 |    |
| 20    | 0 | 19 | 42 | 47 | 8  | 23 | 31 | 40 | 8  | 21 | 17 | 59 | 0  | 1 | 3  | 33 |    |
| 21    | 0 | 20 | 41 | 55 | 9  | 6  | 42 | 15 | 9  | 4  | 21 | 51 | 0  | 1 | 6  | 43 |    |
| 22    | 0 | 21 | 41 | 3  | 9  | 19 | 52 | 50 | 9  | 17 | 25 | 47 | 0  | 1 | 9  | 54 |    |
| 23    | 0 | 22 | 40 | 12 | 10 | 3  | 3  | 25 | 10 | 0  | 29 | 41 | 0  | 1 | 11 | 5  |    |
| 24    | 0 | 23 | 39 | 20 | 10 | 16 | 14 | 0  | 10 | 13 | 33 | 35 | 0  | 1 | 16 | 15 |    |
| 25    | 0 | 24 | 38 | 28 | 10 | 29 | 24 | 36 | 10 | 26 | 37 | 29 | 0  | 1 | 19 | 26 |    |
| 26    | 0 | 25 | 37 | 36 | 11 | 12 | 35 | 11 | 11 | 9  | 41 | 23 | 0  | 1 | 22 | 37 |    |
| 27    | 0 | 26 | 36 | 45 | 11 | 25 | 45 | 46 | 11 | 22 | 45 | 17 | 0  | 1 | 25 | 47 |    |
| 28    | 0 | 27 | 35 | 53 | 0  | 8  | 56 | 21 | 0  | 5  | 49 | 11 | 0  | 1 | 28 | 58 |    |
| 29    | 0 | 28 | 35 | 1  | 0  | 22 | 6  | 56 | 0  | 18 | 53 | 5  | 0  | 1 | 32 | 8  |    |
| 30    | 0 | 29 | 34 | 10 | 1  | 5  | 17 | 11 | 1  | 1  | 56 | 59 | 0  | 1 | 35 | 19 |    |
| 31    | 1 | 0  | 33 | 18 | 1  | 18 | 28 | 6  | 1  | 15 | 0  | 51 | 0  | 1 | 38 | 30 |    |

# Continuatio tabule precedētis In horis et minutis.

| hora | Solis<br>° |    |     | Lune<br>° |    |     | Argumenti<br>Lune ° |    |     | Capitis die<br>conis 63 |    |     |
|------|------------|----|-----|-----------|----|-----|---------------------|----|-----|-------------------------|----|-----|
|      | g          | m  | fa  | g         | m  | fa  | g                   | m  | fa  | g                       | m  | fa  |
| 1    | 0          | 2  | 28  | 0         | 32 | 56  | 0                   | 32 | 40  | 0                       | 0  | 8   |
| 2    | 0          | 4  | 56  | 1         | 5  | 51  | 1                   | 5  | 19  | 0                       | 0  | 16  |
| 3    | 0          | 7  | 24  | 1         | 18 | 49  | 1                   | 17 | 59  | 0                       | 0  | 24  |
| 4    | 0          | 9  | 51  | 2         | 11 | 46  | 2                   | 10 | 39  | 0                       | 0  | 32  |
| 5    | 0          | 12 | 19  | 2         | 44 | 42  | 2                   | 43 | 19  | 0                       | 0  | 40  |
| 6    | 0          | 14 | 47  | 3         | 17 | 39  | 3                   | 15 | 58  | 0                       | 0  | 48  |
| 7    | 0          | 17 | 15  | 3         | 50 | 35  | 3                   | 48 | 18  | 0                       | 0  | 56  |
| 8    | 0          | 19 | 43  | 4         | 23 | 32  | 4                   | 21 | 18  | 0                       | 1  | 4   |
| 9    | 0          | 22 | 11  | 4         | 56 | 28  | 4                   | 54 | 58  | 0                       | 1  | 11  |
| 10   | 0          | 24 | 38  | 5         | 29 | 25  | 5                   | 26 | 27  | 0                       | 1  | 19  |
| 11   | 0          | 27 | 6   | 6         | 2  | 21  | 5                   | 59 | 17  | 0                       | 1  | 27  |
| 12   | 0          | 29 | 34  | 6         | 35 | 18  | 6                   | 31 | 57  | 0                       | 1  | 35  |
| 13   | 0          | 32 | 2   | 7         | 8  | 14  | 7                   | 4  | 37  | 0                       | 1  | 43  |
| 14   | 0          | 34 | 30  | 7         | 41 | 10  | 7                   | 37 | 16  | 0                       | 1  | 51  |
| 15   | 0          | 36 | 58  | 8         | 14 | 7   | 8                   | 9  | 56  | 0                       | 1  | 59  |
| 16   | 0          | 39 | 26  | 8         | 47 | 3   | 8                   | 42 | 36  | 0                       | 2  | 7   |
| 17   | 0          | 41 | 54  | 9         | 20 | 0   | 9                   | 15 | 16  | 0                       | 2  | 15  |
| 18   | 0          | 44 | 21  | 9         | 52 | 56  | 9                   | 47 | 55  | 0                       | 2  | 23  |
| 19   | 0          | 46 | 49  | 10        | 25 | 53  | 10                  | 20 | 15  | 0                       | 2  | 31  |
| 20   | 0          | 49 | 17  | 10        | 58 | 49  | 10                  | 54 | 15  | 0                       | 2  | 39  |
| 21   | 0          | 51 | 45  | 11        | 31 | 46  | 11                  | 25 | 55  | 0                       | 2  | 47  |
| 22   | 0          | 54 | 13  | 12        | 4  | 42  | 11                  | 58 | 34  | 0                       | 2  | 55  |
| 23   | 0          | 56 | 40  | 12        | 37 | 39  | 12                  | 31 | 14  | 0                       | 3  | 3   |
| 24   | 0          | 59 | 8   | 13        | 10 | 35  | 13                  | 3  | 54  | 0                       | 3  | 11  |
| 25   | 1          | 1  | 16  | 13        | 43 | 31  | 13                  | 16 | 14  | 0                       | 3  | 19  |
| 26   | 1          | 4  | 4   | 14        | 16 | 28  | 14                  | 9  | 13  | 0                       | 3  | 27  |
| 27   | 1          | 6  | 32  | 14        | 49 | 24  | 14                  | 41 | 53  | 0                       | 3  | 35  |
| 28   | 1          | 9  | 0   | 15        | 22 | 21  | 15                  | 14 | 33  | 0                       | 3  | 43  |
| 29   | 1          | 11 | 28  | 15        | 55 | 17  | 15                  | 47 | 13  | 0                       | 3  | 51  |
| 30   | 1          | 13 | 55  | 16        | 28 | 14  | 16                  | 19 | 52  | 0                       | 3  | 59  |
| 31   | 1          | 16 | 23  | 17        | 1  | 10  | 16                  | 52 | 32  | 0                       | 4  | 6   |
| 32   | 1          | 18 | 51  | 17        | 34 | 7   | 17                  | 25 | 12  | 0                       | 4  | 14  |
| 33   | 1          | 21 | 19  | 18        | 7  | 3   | 17                  | 57 | 52  | 0                       | 4  | 22  |
| 34   | 1          | 23 | 47  | 18        | 40 | 0   | 18                  | 30 | 31  | 0                       | 4  | 30  |
| 35   | 1          | 26 | 15  | 19        | 12 | 56  | 19                  | 3  | 11  | 0                       | 4  | 38  |
| 36   | 1          | 28 | 43  | 19        | 45 | 53  | 19                  | 35 | 51  | 0                       | 4  | 46  |
| 37   | 1          | 31 | 10  | 20        | 18 | 49  | 20                  | 8  | 31  | 0                       | 4  | 54  |
| 38   | 1          | 33 | 38  | 20        | 51 | 45  | 20                  | 41 | 10  | 0                       | 5  | 2   |
| 39   | 1          | 36 | 6   | 21        | 24 | 42  | 21                  | 13 | 58  | 0                       | 5  | 10  |
| 40   | 1          | 38 | 34  | 21        | 57 | 38  | 21                  | 46 | 30  | 0                       | 5  | 18  |
| 41   | 1          | 41 | 2   | 22        | 30 | 35  | 22                  | 19 | 10  | 0                       | 5  | 26  |
| 42   | 1          | 43 | 30  | 23        | 3  | 31  | 22                  | 51 | 49  | 0                       | 5  | 34  |
| 43   | 1          | 45 | 57  | 23        | 36 | 28  | 23                  | 24 | 29  | 0                       | 5  | 42  |
| 44   | 1          | 48 | 25  | 24        | 9  | 24  | 23                  | 52 | 9   | 0                       | 5  | 50  |
| 45   | 1          | 50 | 53  | 24        | 42 | 21  | 24                  | 29 | 49  | 0                       | 5  | 57  |
| 46   | 1          | 51 | 21  | 25        | 15 | 17  | 25                  | 2  | 29  | 0                       | 6  | 5   |
| 47   | 1          | 55 | 49  | 25        | 48 | 14  | 25                  | 35 | 8   | 0                       | 6  | 13  |
| 48   | 1          | 58 | 17  | 26        | 21 | 10  | 26                  | 7  | 48  | 0                       | 6  | 21  |
| 49   | 2          | 0  | 44  | 26        | 54 | 6   | 26                  | 40 | 28  | 0                       | 6  | 29  |
| 50   | 2          | 3  | 12  | 27        | 27 | 3   | 27                  | 13 | 7   | 0                       | 6  | 37  |
| 51   | 2          | 5  | 40  | 27        | 59 | 59  | 27                  | 45 | 47  | 0                       | 6  | 45  |
| 52   | 2          | 8  | 8   | 28        | 32 | 56  | 28                  | 18 | 27  | 0                       | 6  | 53  |
| 53   | 2          | 10 | 36  | 29        | 5  | 52  | 28                  | 51 | 7   | 0                       | 7  | 1   |
| 54   | 2          | 13 | 4   | 29        | 18 | 49  | 29                  | 23 | 16  | 0                       | 7  | 9   |
| 55   | 2          | 15 | 32  | 30        | 11 | 45  | 29                  | 56 | 26  | 0                       | 7  | 17  |
| 56   | 2          | 17 | 29  | 30        | 44 | 42  | 30                  | 29 | 6   | 0                       | 7  | 25  |
| 57   | 2          | 20 | 27  | 31        | 17 | 39  | 31                  | 1  | 46  | 0                       | 7  | 33  |
| 58   | 2          | 22 | 55  | 31        | 50 | 35  | 31                  | 34 | 25  | 0                       | 7  | 41  |
| 59   | 2          | 25 | 23  | 32        | 23 | 31  | 32                  | 7  | 5   | 0                       | 7  | 49  |
| 60   | 2          | 27 | 51  | 32        | 56 | 28  | 32                  | 39 | 45  | 0                       | 7  | 57  |
|      | m          | fa | tra | m         | fa | tra | m                   | fa | tra | m                       | fa | tra |

# Tabula Equationis dierum.

Tabula Equationis dierum nouissime constituta  
presupponens fluxum solis in principio Canceri  
Et Declinationem Almageonis.

| Zodi-<br>colus | Ari-<br>es<br>Y | Tau-<br>rus<br>X | Ge-<br>mi-<br>ni<br>II | Can-<br>cer<br>GP | Leo<br>Q | Vir-<br>go<br>HP | Libra<br>da | Scor-<br>pio<br>m | Sagi-<br>tari-<br>us<br>I | Cap-<br>icorn-<br>us<br>b | Aq-<br>ui-<br>na-<br>ri-<br>us<br>m | Pi-<br>sces<br>X |
|----------------|-----------------|------------------|------------------------|-------------------|----------|------------------|-------------|-------------------|---------------------------|---------------------------|-------------------------------------|------------------|
| g              | m Pa            | m Pa             | m Pa                   | m Pa              | m Pa     | m Pa             | m Pa        | m Pa              | m Pa                      | m Pa                      | m Pa                                | m Pa             |
| 0              | 7 44            | 17 20            | 20 52                  | 16 24             | 11 56    | 15 28            | 25 4        | 32 20             | 29 32                     | 16 24                     | 3 16                                | 0 28             |
| 1              | 8 4             | 17 36            | 20 52                  | 16 8              | 11 52    | 15 44            | 25 24       | 32 28             | 29 16                     | 15 52                     | 3 0                                 | 0 36             |
| 2              | 8 24            | 17 52            | 20 48                  | 15 56             | 11 52    | 16 0             | 25 44       | 32 32             | 29 0                      | 15 24                     | 2 44                                | 0 44             |
| 3              | 8 44            | 18 8             | 20 44                  | 15 44             | 11 52    | 16 16            | 26 4        | 32 36             | 28 40                     | 14 52                     | 2 28                                | 0 52             |
| 4              | 9 4             | 18 20            | 20 40                  | 15 32             | 11 52    | 16 32            | 26 24       | 32 40             | 28 20                     | 14 20                     | 2 12                                | 1 0              |
| 5              | 9 24            | 18 32            | 20 36                  | 15 20             | 11 52    | 16 48            | 26 40       | 32 44             | 28 0                      | 13 48                     | 1 56                                | 1 8              |
| 6              | 9 48            | 18 44            | 20 32                  | 15 8              | 11 52    | 17 4             | 27 0        | 32 44             | 27 40                     | 13 16                     | 1 44                                | 1 16             |
| 7              | 10 8            | 18 56            | 20 28                  | 14 56             | 11 56    | 17 20            | 27 20       | 32 48             | 27 20                     | 12 44                     | 1 32                                | 1 28             |
| 8              | 10 28           | 19 8             | 20 20                  | 14 44             | 11 56    | 17 40            | 27 40       | 32 48             | 26 56                     | 12 16                     | 1 20                                | 1 40             |
| 9              | 10 48           | 19 20            | 20 12                  | 14 32             | 12 0     | 18 0             | 27 56       | 32 48             | 26 32                     | 11 48                     | 1 8                                 | 1 52             |
| 10             | 11 8            | 19 28            | 20 4                   | 14 20             | 12 4     | 18 20            | 28 12       | 32 48             | 26 8                      | 11 20                     | 0 56                                | 2 4              |
| 11             | 11 28           | 19 40            | 19 56                  | 14 8              | 12 8     | 18 36            | 28 28       | 32 44             | 25 40                     | 10 52                     | 0 48                                | 2 16             |
| 12             | 11 48           | 19 48            | 19 48                  | 13 56             | 12 12    | 18 56            | 28 44       | 32 44             | 25 12                     | 10 24                     | 0 40                                | 2 28             |
| 13             | 12 8            | 19 56            | 19 40                  | 13 44             | 12 16    | 19 16            | 29 0        | 32 40             | 24 44                     | 9 56                      | 0 32                                | 2 40             |
| 14             | 12 28           | 20 4             | 19 32                  | 13 36             | 12 24    | 19 36            | 29 16       | 32 36             | 24 16                     | 9 28                      | 0 24                                | 2 56             |
| 15             | 12 48           | 20 12            | 19 20                  | 13 28             | 12 32    | 19 56            | 29 32       | 32 28             | 23 48                     | 9 0                       | 0 20                                | 3 12             |
| 16             | 13 8            | 20 20            | 19 12                  | 13 16             | 12 40    | 20 16            | 29 48       | 32 24             | 23 20                     | 8 32                      | 0 12                                | 3 28             |
| 17             | 13 28           | 20 28            | 19 4                   | 13 8              | 12 48    | 20 36            | 30 4        | 32 16             | 22 52                     | 8 4                       | 0 8                                 | 3 44             |
| 18             | 13 48           | 20 36            | 18 52                  | 13 0              | 12 56    | 20 56            | 30 20       | 32 8              | 22 24                     | 7 36                      | 0 4                                 | 4 0              |
| 19             | 14 8            | 20 40            | 18 40                  | 12 52             | 13 4     | 21 16            | 30 32       | 32 0              | 21 56                     | 7 12                      | 0 4                                 | 4 16             |
| 20             | 14 28           | 20 44            | 18 28                  | 12 44             | 13 16    | 21 40            | 30 44       | 31 52             | 21 28                     | 6 48                      | 0 0                                 | 4 36             |
| 21             | 14 44           | 20 48            | 18 16                  | 12 36             | 13 28    | 22 0             | 30 56       | 31 40             | 21 0                      | 6 24                      | 0 0                                 | 5 12             |
| 22             | 15 4            | 20 52            | 18 4                   | 12 28             | 13 40    | 22 20            | 31 8        | 31 28             | 20 32                     | 6 0                       | 0 0                                 | 5 28             |
| 23             | 15 20           | 20 52            | 17 52                  | 12 20             | 13 52    | 22 40            | 31 20       | 31 16             | 20 0                      | 5 36                      | 0 0                                 | 5 20             |
| 24             | 15 40           | 20 56            | 17 40                  | 12 16             | 14 4     | 23 0             | 31 32       | 31 4              | 19 28                     | 5 12                      | 0 4                                 | 5 44             |
| 25             | 15 56           | 20 56            | 17 28                  | 12 12             | 14 16    | 23 20            | 31 40       | 30 52             | 18 56                     | 4 52                      | 0 4                                 | 6 8              |
| 26             | 16 16           | 20 56            | 17 16                  | 12 8              | 14 28    | 23 44            | 31 48       | 30 36             | 18 24                     | 4 32                      | 0 8                                 | 6 24             |
| 27             | 16 32           | 20 56            | 17 4                   | 12 4              | 14 40    | 24 4             | 31 56       | 30 20             | 17 52                     | 4 12                      | 0 12                                | 6 44             |
| 28             | 16 48           | 20 56            | 16 52                  | 12 0              | 14 56    | 24 24            | 32 4        | 30 4              | 17 24                     | 3 52                      | 0 16                                | 7 4              |
| 29             | 17 4            | 20 56            | 16 40                  | 11 56             | 15 12    | 24 44            | 32 12       | 29 48             | 16 52                     | 3 32                      | 0 20                                | 7 24             |
| 30             | 17 20           | 20 56            | 16 24                  | 11 56             | 15 28    | 25 4             | 32 20       | 29 32             | 16 24                     | 3 16                      | 0 28                                | 7 44             |

### Tabula Equationis Solis.

[illegible]

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11 10 9 8 7 6

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# Tabula Equationis Solis.

| Argumenti<br>Solis<br>Gradus | 0 1 2 3 4 5      |      |                  |         |                  |        |                  |         |                  |         | Equatio<br>Solis |
|------------------------------|------------------|------|------------------|---------|------------------|--------|------------------|---------|------------------|---------|------------------|
|                              | Equatio<br>nata. |      | Equatio<br>nata. |         | Equatio<br>nata. |        | Equatio<br>nata. |         | Equatio<br>nata. |         |                  |
|                              | g                | m    | g                | m       | g                | m      | g                | m       | g                | m       |                  |
| 7 40                         | 0 16 21          | 2 10 | 1 16 30          | 1 58 17 |                  | 2 9 26 |                  | 1 45 32 |                  | 0 51 31 | 22 30            |
| 7 40                         | 0 16 43          |      | 1 17 7           | 1 58 27 |                  | 2 9 34 |                  | 1 45 18 |                  | 0 51 9  | 22 20            |
| 7 50                         | 0 17 4           |      | 1 17 25          | 1 58 36 |                  | 2 9 22 |                  | 1 45 5  |                  | 0 50 48 | 22 10            |
| 8 0                          | 0 17 26          |      | 1 17 43          | 1 58 45 | 0 54             | 2 9 19 | 0 15             | 1 44 51 | 1 24             | 0 50 26 | 22 0             |
| 8 10                         | 0 17 48          |      | 1 18 1           | 1 58 54 |                  | 2 9 17 |                  | 1 44 37 |                  | 0 50 5  | 21 50            |
| 8 20                         | 0 18 9           |      | 1 18 19          | 1 59 3  |                  | 2 9 14 |                  | 1 44 23 |                  | 0 49 43 | 21 40            |
| 8 30                         | 0 18 31          |      | 1 18 37          | 1 59 12 |                  | 2 9 12 |                  | 1 44 9  |                  | 0 49 21 | 21 30            |
| 8 40                         | 0 18 53          |      | 1 18 53          | 1 59 21 |                  | 2 9 9  |                  | 1 43 55 |                  | 0 49 0  | 21 20            |
| 8 50                         | 0 19 14          |      | 1 19 11          | 1 59 30 |                  | 2 9 7  |                  | 1 43 41 |                  | 0 48 38 | 21 10            |
| 9 0                          | 0 19 36          |      | 1 19 28          | 1 59 39 | 0 52             | 2 9 4  | 0 17             | 1 43 27 | 1 26             | 0 48 16 | 21 0             |
| 9 10                         | 0 19 58          |      | 1 19 46          | 1 59 48 |                  | 2 9 1  |                  | 1 43 13 |                  | 0 47 54 | 20 50            |
| 9 20                         | 0 20 19          |      | 1 20 3           | 1 59 57 |                  | 2 8 58 |                  | 1 42 59 |                  | 0 47 32 | 20 40            |
| 9 30                         | 0 20 41          |      | 1 20 20          | 2 0 5   |                  | 2 8 56 |                  | 1 42 44 |                  | 0 47 11 | 20 30            |
| 9 40                         | 0 21 3           |      | 1 20 37          | 2 0 14  |                  | 2 8 53 |                  | 1 42 30 |                  | 0 46 49 | 20 20            |
| 9 50                         | 0 21 24          |      | 1 20 54          | 2 0 23  |                  | 2 8 50 |                  | 1 42 16 |                  | 0 46 27 | 20 10            |
| 10 0                         | 0 21 46          | 2 9  | 1 21 11          | 2 0 31  | 0 50             | 2 8 47 | 0 19             | 1 42 1  | 1 28             | 0 46 5  | 2 12             |
| 10 10                        | 0 22 8           |      | 1 21 28          | 2 0 40  |                  | 2 8 44 |                  | 1 41 47 |                  | 0 45 43 | 20 0             |
| 10 20                        | 0 22 29          |      | 1 21 45          | 2 0 48  |                  | 2 8 41 |                  | 1 41 32 |                  | 0 45 21 | 19 50            |
| 10 30                        | 0 22 51          |      | 1 22 2           | 2 0 56  |                  | 2 8 38 |                  | 1 41 17 |                  | 0 44 59 | 19 40            |
| 10 40                        | 0 23 12          |      | 1 22 19          | 2 1 5   |                  | 2 8 35 |                  | 1 41 3  |                  | 0 44 37 | 19 30            |
| 10 50                        | 0 23 34          |      | 1 22 36          | 2 1 13  |                  | 2 8 32 |                  | 1 40 48 |                  | 0 44 15 | 19 20            |
| 11 0                         | 0 23 55          |      | 1 22 53          | 2 1 21  | 0 48             | 2 8 28 | 0 22             | 1 40 33 | 1 30             | 0 43 53 | 19 0             |
| 11 10                        | 0 24 17          |      | 1 23 10          | 2 1 29  |                  | 2 8 25 |                  | 1 40 18 |                  | 0 43 31 | 18 50            |
| 11 20                        | 0 24 38          |      | 1 23 27          | 2 1 37  |                  | 2 8 21 |                  | 1 40 3  |                  | 0 43 9  | 18 40            |
| 11 30                        | 0 25 0           |      | 1 23 44          | 2 1 45  |                  | 2 8 17 |                  | 1 39 48 |                  | 0 42 47 | 18 30            |
| 11 40                        | 0 25 21          |      | 1 24 0           | 2 1 53  |                  | 2 8 14 |                  | 1 39 33 |                  | 0 42 25 | 18 20            |
| 11 50                        | 0 25 43          |      | 1 24 17          | 2 2 1   |                  | 2 8 10 |                  | 1 39 18 |                  | 0 42 3  | 18 10            |
| 12 0                         | 0 26 4           | 2 8  | 1 24 34          | 2 2 9   | 0 43             | 2 8 6  | 0 25             | 1 39 3  | 1 31             | 0 41 40 | 18 0             |
| 12 10                        | 0 26 25          |      | 1 24 51          | 2 2 17  |                  | 2 8 1  |                  | 1 38 48 |                  | 0 41 18 | 17 50            |
| 12 20                        | 0 26 47          |      | 1 25 8           | 2 2 24  |                  | 2 7 58 |                  | 1 38 33 |                  | 0 40 56 | 17 40            |
| 12 30                        | 0 27 8           |      | 1 25 24          | 2 2 32  |                  | 2 7 54 |                  | 1 38 18 |                  | 0 40 33 | 17 30            |
| 12 40                        | 0 27 29          |      | 1 25 41          | 2 2 39  |                  | 2 7 50 |                  | 1 38 3  |                  | 0 40 11 | 17 20            |
| 12 50                        | 0 27 51          |      | 1 25 58          | 2 2 47  |                  | 2 7 46 |                  | 1 37 48 |                  | 0 39 49 | 17 10            |
| 13 0                         | 0 28 12          |      | 1 26 14          | 2 2 54  | 0 45             | 2 7 41 | 0 27             | 1 37 33 | 1 33             | 0 39 26 | 17 0             |
| 13 10                        | 0 28 33          |      | 1 26 31          | 2 3 2   |                  | 2 7 37 |                  | 1 37 17 |                  | 0 39 4  | 16 50            |
| 13 20                        | 0 28 55          |      | 1 26 47          | 2 3 9   |                  | 2 7 32 |                  | 1 37 1  |                  | 0 38 41 | 16 40            |
| 13 30                        | 0 29 16          |      | 1 27 1           | 2 3 16  |                  | 2 7 28 |                  | 1 36 46 |                  | 0 38 19 | 16 30            |
| 13 40                        | 0 29 37          |      | 1 27 20          | 2 3 23  |                  | 2 7 23 |                  | 1 36 30 |                  | 0 37 56 | 16 20            |
| 13 50                        | 0 29 59          |      | 1 27 36          | 2 3 30  |                  | 2 7 19 |                  | 1 36 15 |                  | 0 37 34 | 16 10            |
| 14 0                         | 0 30 20          | 2 7  | 1 27 52          | 2 3 37  | 0 40             | 2 7 14 | 0 30             | 1 35 59 | 1 35             | 0 37 11 | 16 0             |
| 14 10                        | 0 30 41          |      | 1 28 9           | 2 3 44  |                  | 2 7 9  |                  | 1 35 43 |                  | 0 36 49 | 15 50            |
| 14 20                        | 0 31 2           |      | 1 28 25          | 2 3 51  |                  | 2 7 4  |                  | 1 35 27 |                  | 0 36 26 | 15 40            |
| 14 30                        | 0 31 24          |      | 1 28 41          | 2 3 57  |                  | 2 6 59 |                  | 1 35 12 |                  | 0 36 1  | 15 30            |
| 14 40                        | 0 31 45          |      | 1 28 57          | 2 4 4   |                  | 2 6 54 |                  | 1 34 56 |                  | 0 35 41 | 15 20            |
| 14 50                        | 0 32 6           |      | 1 29 13          | 2 4 11  |                  | 2 6 49 |                  | 1 34 40 |                  | 0 35 18 | 15 10            |
| 15 0                         | 0 32 27          |      | 1 29 29          | 2 4 17  | 0 38             | 2 6 44 | 0 32             | 1 34 24 | 1 37             | 0 34 55 | 15 0             |

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| Argumenti Gradus<br>Eccle. & Equia | 0       |     | 1       |      | 2       |      | 3       |      | 4       |      | 5       |      |
|------------------------------------|---------|-----|---------|------|---------|------|---------|------|---------|------|---------|------|
|                                    | Equatio |     | Equatio |      | Equatio |      | Equatio |      | Equatio |      | Equatio |      |
|                                    | mi      | sec | mi      | sec  | mi      | sec  | mi      | sec  | mi      | sec  | mi      | sec  |
| 15 0                               | 0 12 27 | 2 7 | 1 29 29 | 1 35 | 2 4 17  | 0 38 | 2 6 44  | 0 32 | 1 34 24 | 1 37 | 0 14 55 | 2 16 |
| 15 10                              | 0 12 48 |     | 1 29 45 |      | 2 4 24  |      | 2 6 19  |      | 1 34 8  |      | 0 14 31 |      |
| 15 20                              | 0 13 9  |     | 1 30 1  |      | 2 4 30  |      | 2 6 14  |      | 1 33 52 |      | 0 14 10 |      |
| 15 30                              | 0 13 31 |     | 1 30 17 |      | 2 4 36  |      | 2 6 8   |      | 1 33 16 |      | 0 13 47 |      |
| 15 40                              | 0 13 52 |     | 1 30 33 |      | 2 4 43  |      | 2 6 21  |      | 1 33 20 |      | 0 13 25 |      |
| 15 50                              | 0 14 13 |     | 1 30 48 |      | 2 4 49  |      | 2 6 18  |      | 1 33 4  |      | 0 13 2  |      |
| 16 0                               | 0 14 34 | 2 6 | 1 31 4  | 1 34 | 2 4 55  | 0 36 | 2 6 12  | 0 34 | 1 32 47 | 1 39 | 0 12 39 | 2 17 |
| 16 10                              | 0 14 55 |     | 1 31 20 |      | 2 5 1   |      | 2 6 7   |      | 1 32 31 |      | 0 12 16 |      |
| 16 20                              | 0 15 16 |     | 1 31 36 |      | 2 5 7   |      | 2 6 1   |      | 1 32 14 |      | 0 11 52 |      |
| 16 30                              | 0 15 37 |     | 1 31 51 |      | 2 5 13  |      | 2 5 55  |      | 1 31 58 |      | 0 11 31 |      |
| 16 40                              | 0 15 58 |     | 1 32 7  |      | 2 5 19  |      | 2 5 50  |      | 1 31 41 |      | 0 11 8  |      |
| 16 50                              | 0 16 19 |     | 1 32 23 |      | 2 5 25  |      | 2 5 44  |      | 1 31 25 |      | 0 10 45 |      |
| 17 0                               | 0 16 40 |     | 1 32 38 | 1 33 | 2 5 31  | 0 34 | 2 5 38  | 0 37 | 1 31 8  | 1 41 | 0 10 22 | 2 18 |
| 17 10                              | 0 17 1  |     | 1 32 54 |      | 2 5 37  |      | 2 5 32  |      | 1 30 51 |      | 0 29 59 |      |
| 17 20                              | 0 17 22 |     | 1 33 9  |      | 2 5 43  |      | 2 5 26  |      | 1 30 34 |      | 0 29 36 |      |
| 17 30                              | 0 17 43 |     | 1 33 25 |      | 2 5 48  |      | 2 5 20  |      | 1 30 18 |      | 0 29 13 |      |
| 17 40                              | 0 18 4  |     | 1 33 40 |      | 2 5 54  |      | 2 5 14  |      | 1 30 1  |      | 0 28 50 |      |
| 17 50                              | 0 18 25 |     | 1 33 56 |      | 2 6 0   |      | 2 5 8   |      | 1 29 44 |      | 0 28 27 |      |
| 18 0                               | 0 18 46 | 2 5 | 1 34 11 | 1 31 | 2 6 5   | 0 32 | 2 5 1   | 0 39 | 1 29 27 | 1 42 | 0 28 4  |      |
| 18 10                              | 0 19 7  |     | 1 34 27 |      | 2 6 11  |      | 2 4 55  |      | 1 29 10 |      | 0 27 41 |      |
| 18 20                              | 0 19 28 |     | 1 34 42 |      | 2 6 16  |      | 2 4 48  |      | 1 28 53 |      | 0 27 18 |      |
| 18 30                              | 0 19 49 |     | 1 34 57 |      | 2 6 22  |      | 2 4 42  |      | 1 28 36 |      | 0 26 55 |      |
| 18 40                              | 0 20 9  |     | 1 35 12 |      | 2 6 27  |      | 2 4 35  |      | 1 28 19 |      | 0 26 32 |      |
| 18 50                              | 0 20 30 |     | 1 35 27 |      | 2 6 32  |      | 2 4 29  |      | 1 28 2  |      | 0 26 9  |      |
| 19 0                               | 0 20 51 |     | 1 35 43 | 1 29 | 2 6 37  | 0 29 | 2 4 22  | 0 41 | 1 27 45 | 1 44 | 0 25 46 | 2 19 |
| 19 10                              | 0 21 12 |     | 1 35 58 |      | 2 6 42  |      | 2 4 15  |      | 1 27 28 |      | 0 25 23 |      |
| 19 20                              | 0 21 33 |     | 1 36 13 |      | 2 6 47  |      | 2 4 8   |      | 1 27 11 |      | 0 25 0  |      |
| 19 30                              | 0 21 54 |     | 1 36 27 |      | 2 6 52  |      | 2 4 2   |      | 1 26 54 |      | 0 24 37 |      |
| 19 40                              | 0 22 14 |     | 1 36 41 |      | 2 6 56  |      | 2 3 55  |      | 1 26 36 |      | 0 24 14 |      |
| 19 50                              | 0 22 35 |     | 1 36 56 |      | 2 7 1   |      | 2 3 48  |      | 1 26 19 |      | 0 23 51 |      |
| 20 0                               | 0 22 56 | 2 4 | 1 37 11 | 1 27 | 2 7 6   | 0 27 | 2 3 41  | 0 41 | 1 26 1  | 1 46 | 0 23 27 | 2 20 |
| 20 10                              | 0 23 17 |     | 1 37 26 |      | 2 7 11  |      | 2 3 34  |      | 1 25 44 |      | 0 23 4  |      |
| 20 20                              | 0 23 37 |     | 1 37 40 |      | 2 7 15  |      | 2 3 27  |      | 1 25 26 |      | 0 22 41 |      |
| 20 30                              | 0 23 58 |     | 1 37 55 |      | 2 7 20  |      | 2 3 20  |      | 1 25 8  |      | 0 22 17 |      |
| 20 40                              | 0 24 19 |     | 1 38 9  |      | 2 7 24  |      | 2 3 13  |      | 1 24 51 |      | 0 21 54 |      |
| 20 50                              | 0 24 39 |     | 1 38 24 |      | 2 7 29  |      | 2 3 6   |      | 1 24 33 |      | 0 21 31 |      |
| 21 0                               | 0 25 0  | 2 3 | 1 38 38 | 1 26 | 2 7 33  | 0 25 | 2 3 58  | 0 46 | 1 24 15 | 1 48 | 0 21 7  |      |
| 21 10                              | 0 25 21 |     | 1 38 53 |      | 2 7 38  |      | 2 2 51  |      | 1 23 57 |      | 0 20 44 |      |
| 21 20                              | 0 25 41 |     | 1 39 7  |      | 2 7 42  |      | 2 2 43  |      | 1 23 39 |      | 0 20 21 |      |
| 21 30                              | 0 26 2  |     | 1 39 21 |      | 2 7 46  |      | 2 2 35  |      | 1 23 21 |      | 0 19 57 |      |
| 21 40                              | 0 26 22 |     | 1 39 36 |      | 2 7 50  |      | 2 2 28  |      | 1 23 3  |      | 0 19 34 |      |
| 21 50                              | 0 26 43 |     | 1 39 50 |      | 2 7 54  |      | 2 2 20  |      | 1 22 45 |      | 0 19 11 |      |
| 22 0                               | 0 27 1  | 2 2 | 1 40 4  | 1 24 | 2 7 58  | 0 23 | 2 2 12  | 0 48 | 1 22 27 | 1 49 | 0 18 47 |      |
| 22 10                              | 0 27 23 |     | 1 40 18 |      | 2 8 2   |      | 2 2 4   |      | 1 22 9  |      | 0 18 24 |      |
| 22 20                              | 0 27 44 |     | 1 40 32 |      | 2 8 6   |      | 2 1 56  |      | 1 21 51 |      | 0 18 1  |      |
| 22 30                              | 0 28 4  |     | 1 40 46 |      | 2 8 10  |      | 2 1 48  |      | 1 21 33 |      | 0 17 17 | 2 20 |

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| Significandi<br>Sola | 0 1 2 3 4 5 Signa |               |              |               |              |               |              |               |              |               |              |               | Significandi<br>Sola |  |
|----------------------|-------------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|----------------------|--|
|                      | 110               |               |              |               |              |               |              |               |              |               |              |               |                      |  |
|                      | Equa-<br>tio      | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. |                      |  |
| g mi                 | 2 fa              | g mi          | 2 fa         | g mi          | 2 fa         | g mi          | 2 fa         | g mi          | 2 fa         | g mi          | 2 fa         | g mi          | 2 fa                 |  |
| 22 30                | 0 48 4            | 2 21          | 1 40 46      | 1             | 2 8 10       |               | 2 1 48       |               | 1 21 34      |               | 0 17 37      |               | 7 30                 |  |
| 22 40                | 0 48 24           |               | 1 41 0       |               | 2 8 13       |               | 2 1 49       |               | 1 21 35      |               | 0 17 14      |               | 7 20                 |  |
| 22 50                | 0 48 45           |               | 1 41 14      |               | 2 8 17       |               | 2 1 32       |               | 1 20 57      |               | 0 16 51      |               | 7 10                 |  |
| 23 0                 | 0 49 5            | 2 1           | 1 41 28      | 1 21          | 2 8 21       | 0 21          | 2 1 24       | 0 51          | 1 20 38      | 1 51          | 0 16 27      | 2 20          | 7 0                  |  |
| 23 10                | 0 49 25           |               | 1 41 42      |               | 2 8 25       |               | 2 1 16       |               | 1 20 20      |               | 0 16 4       |               | 6 50                 |  |
| 23 20                | 0 49 45           |               | 1 41 56      |               | 2 8 28       |               | 2 1 7        |               | 1 20 10      |               | 0 15 41      |               | 6 40                 |  |
| 23 30                | 0 50 6            |               | 1 42 9       |               | 2 8 32       |               | 2 0 59       |               | 1 19 41      |               | 0 15 17      |               | 6 30                 |  |
| 23 40                | 0 50 26           |               | 1 42 23      |               | 2 8 35       |               | 2 0 50       |               | 1 19 24      |               | 0 14 54      |               | 6 20                 |  |
| 23 50                | 0 50 46           |               | 1 42 37      |               | 2 8 39       |               | 2 0 42       |               | 1 19 6       |               | 0 14 31      |               | 6 10                 |  |
| 24 0                 | 0 51 6            | 2 0           | 1 42 50      | 1 20          | 2 8 42       | 0 18          | 2 0 33       | 0 51          | 1 18 47      | 1 52          | 0 14 7       | 2 21          | 6 0                  |  |
| 24 10                | 0 51 26           |               | 1 43 4       |               | 2 8 45       |               | 2 0 24       |               | 1 18 29      |               | 0 13 44      |               | 5 50                 |  |
| 24 20                | 0 51 46           |               | 1 43 17      |               | 2 8 48       |               | 2 0 15       |               | 1 18 10      |               | 0 13 20      |               | 5 40                 |  |
| 24 30                | 0 52 6            |               | 1 43 30      |               | 2 8 51       |               | 2 0 7        |               | 1 17 51      |               | 0 12 57      |               | 5 30                 |  |
| 24 40                | 0 52 26           |               | 1 43 44      |               | 2 8 54       |               | 1 59 58      |               | 1 17 33      |               | 0 12 33      |               | 5 20                 |  |
| 24 50                | 0 52 46           |               | 1 43 57      |               | 2 8 57       |               | 1 59 49      |               | 1 17 14      |               | 0 12 10      |               | 5 10                 |  |
| 25 0                 | 0 53 6            | 1 59          | 1 44 10      | 1 19          | 2 9 0        | 0 16          | 1 59 40      | 0 55          | 1 16 55      | 1 54          | 0 11 46      |               | 5 0                  |  |
| 25 10                | 0 53 26           |               | 1 44 24      |               | 2 9 3        |               | 1 59 31      |               | 1 16 36      |               | 0 11 23      |               | 4 50                 |  |
| 25 20                | 0 53 46           |               | 1 44 37      |               | 2 9 6        |               | 1 59 22      |               | 1 16 17      |               | 0 10 59      |               | 4 40                 |  |
| 25 30                | 0 54 6            |               | 1 44 50      |               | 2 9 8        |               | 1 59 13      |               | 1 15 58      |               | 0 10 36      |               | 4 30                 |  |
| 25 40                | 0 54 25           |               | 1 45 3       |               | 2 9 11       |               | 1 59 4       |               | 1 15 39      |               | 0 10 12      |               | 4 20                 |  |
| 25 50                | 0 54 45           |               | 1 45 16      |               | 2 9 14       |               | 1 58 55      |               | 1 15 20      |               | 0 9 49       |               | 4 10                 |  |
| 26 0                 | 0 55 5            |               | 1 45 29      | 1 17          | 2 9 16       | 0 13          | 1 58 45      | 0 57          | 1 15 1       | 1 55          | 0 9 25       |               | 4 0                  |  |
| 26 10                | 0 55 25           |               | 1 45 42      |               | 2 9 19       |               | 1 58 36      |               | 1 14 42      |               | 0 9 2        |               | 3 50                 |  |
| 26 20                | 0 55 45           |               | 1 45 55      |               | 2 9 21       |               | 1 58 26      |               | 1 14 23      |               | 0 8 38       |               | 3 40                 |  |
| 26 30                | 0 56 6            |               | 1 46 8       |               | 2 9 23       |               | 1 58 17      |               | 1 14 4       |               | 0 8 15       |               | 3 30                 |  |
| 26 40                | 0 56 24           |               | 1 46 20      |               | 2 9 25       |               | 1 58 7       |               | 1 13 45      |               | 0 7 51       |               | 3 20                 |  |
| 26 50                | 0 56 44           |               | 1 46 33      |               | 2 9 27       |               | 1 57 58      |               | 1 13 26      |               | 0 7 28       |               | 3 10                 |  |
| 27 0                 | 0 57 4            | 1 58          | 1 46 46      | 1 15          | 2 9 29       | 0 11          | 1 57 48      | 1 0           | 1 13 6       | 1 57          | 0 7 4        |               | 3 0                  |  |
| 27 10                | 0 57 24           |               | 1 46 59      |               | 2 9 31       |               | 1 57 38      |               | 1 12 47      |               | 0 6 41       |               | 2 50                 |  |
| 27 20                | 0 57 44           |               | 1 47 11      |               | 2 9 33       |               | 1 57 28      |               | 1 12 27      |               | 0 6 17       |               | 2 40                 |  |
| 27 30                | 0 58 4            |               | 1 47 24      |               | 2 9 35       |               | 1 57 18      |               | 1 12 8       |               | 0 5 54       |               | 2 30                 |  |
| 27 40                | 0 58 24           |               | 1 47 36      |               | 2 9 36       |               | 1 57 8       |               | 1 11 48      |               | 0 5 30       |               | 2 20                 |  |
| 27 50                | 0 58 43           |               | 1 47 47      |               | 2 9 38       |               | 1 56 58      |               | 1 11 29      |               | 0 5 7        |               | 2 10                 |  |
| 28 0                 | 0 59 2            | 1 57          | 1 48 1       | 1 14          | 2 9 40       | 0 8           | 1 56 48      | 1 2           | 1 11 9       | 1 58          | 0 4 43       | 2 22          | 2 0                  |  |
| 28 10                | 0 59 22           |               | 1 48 14      |               | 2 9 42       |               | 1 56 38      |               | 1 10 50      |               | 0 4 20       |               | 1 50                 |  |
| 28 20                | 0 59 41           |               | 1 48 26      |               | 2 9 43       |               | 1 56 28      |               | 1 10 30      |               | 0 3 56       |               | 1 40                 |  |
| 28 30                | 1 0 1             |               | 1 48 38      |               | 2 9 44       |               | 1 56 17      |               | 1 10 10      |               | 0 3 32       |               | 1 30                 |  |
| 28 40                | 1 0 20            |               | 1 48 41      |               | 2 9 45       |               | 1 56 7       |               | 1 9 51       |               | 0 3 9        |               | 1 20                 |  |
| 28 50                | 1 0 40            |               | 1 49 3       |               | 2 9 47       |               | 1 55 57      |               | 1 9 31       |               | 0 2 45       |               | 1 10                 |  |
| 29 0                 | 1 0 59            | 1 56          | 1 49 15      | 1 11          | 2 9 48       | 0 6           | 1 55 46      | 1 9           | 1 9 11       | 2 0           | 0 2 21       | 2 21          | 1 0                  |  |
| 29 10                | 1 1 18            |               | 1 49 27      |               | 2 9 49       |               | 1 55 36      |               | 1 8 51       |               | 0 1 58       |               | 0 50                 |  |
| 29 20                | 1 1 38            |               | 1 49 39      |               | 2 9 50       |               | 1 55 25      |               | 1 8 31       |               | 0 1 34       |               | 0 40                 |  |
| 29 30                | 1 1 57            |               | 1 49 51      |               | 2 9 51       |               | 1 55 14      |               | 1 8 11       |               | 0 1 11       |               | 0 30                 |  |
| 29 40                | 1 2 16            |               | 1 50 2       |               | 2 9 52       |               | 1 55 4       |               | 1 7 51       |               | 0 0 47       |               | 0 20                 |  |
| 29 50                | 1 2 36            |               | 1 50 14      |               | 2 9 53       |               | 1 54 53      |               | 1 7 31       |               | 0 0 24       |               | 0 10                 |  |
| 30 0                 | 1 2 55            |               | 1 50 26      | 1 9           | 2 9 54       |               | 1 54 42      | 1 7           | 1 7 11       | 2 1           | 0 0 0        |               | 0 0                  |  |

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| Significandi<br>Sola | 10 9 8 7 6 na |               |              |               |              |               |              |               |              |               |              |               | Significandi<br>Sola |  |
|----------------------|---------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|----------------------|--|
|                      | 110           |               |              |               |              |               |              |               |              |               |              |               |                      |  |
|                      | Equa-<br>tio  | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. | Equa-<br>tio | vari-<br>mto. |                      |  |
| g mi                 | 2 fa          | g mi          | 2 fa         | g mi          | 2 fa         | g mi          | 2 fa         | g mi          | 2 fa         | g mi          | 2 fa         | g mi          | 2 fa                 |  |

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| Cetera Arguendi ver. | Admitt. |    |    | Addit. |      |    | Signa |    |      |
|----------------------|---------|----|----|--------|------|----|-------|----|------|
|                      | g       | m  | h  | g      | m    | h  | g     | m  | h    |
| 0 0                  | 12      | 0  | 26 | 2 30   | 4 34 | 54 | 0 24  | 13 | 4 41 |
| 0 10                 | 12      | 1  | 26 | 2 30   | 4 34 | 54 | 0 24  | 13 | 4 41 |
| 0 20                 | 12      | 2  | 26 | 2 30   | 4 34 | 54 | 0 24  | 13 | 4 41 |
| 0 30                 | 12      | 3  | 26 | 2 30   | 4 34 | 54 | 0 24  | 13 | 4 41 |
| 0 40                 | 12      | 4  | 26 | 2 30   | 4 34 | 54 | 0 24  | 13 | 4 41 |
| 0 50                 | 12      | 5  | 26 | 2 30   | 4 34 | 54 | 0 24  | 13 | 4 41 |
| 1 0                  | 12      | 6  | 27 | 2 37   | 4 35 | 18 | 0 18  | 13 | 1 41 |
| 1 10                 | 12      | 6  | 27 | 2 37   | 4 35 | 18 | 0 18  | 13 | 1 41 |
| 1 20                 | 12      | 7  | 27 | 2 37   | 4 35 | 18 | 0 18  | 13 | 1 41 |
| 1 30                 | 12      | 8  | 27 | 2 37   | 4 35 | 18 | 0 18  | 13 | 1 41 |
| 1 40                 | 12      | 8  | 27 | 2 37   | 4 35 | 18 | 0 18  | 13 | 1 41 |
| 1 50                 | 12      | 9  | 27 | 2 37   | 4 35 | 18 | 0 18  | 13 | 1 41 |
| 2 0                  | 12      | 10 | 27 | 2 38   | 4 35 | 37 | 0 12  | 13 | 1 44 |
| 2 10                 | 12      | 11 | 27 | 2 38   | 4 35 | 37 | 0 12  | 13 | 1 44 |
| 2 20                 | 12      | 12 | 27 | 2 38   | 4 35 | 37 | 0 12  | 13 | 1 44 |
| 2 30                 | 12      | 13 | 27 | 2 38   | 4 35 | 37 | 0 12  | 13 | 1 44 |
| 2 40                 | 12      | 14 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 2 50                 | 12      | 15 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 3 0                  | 12      | 16 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 3 10                 | 12      | 17 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 3 20                 | 12      | 18 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 3 30                 | 12      | 19 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 4 0                  | 12      | 20 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 4 10                 | 12      | 21 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 4 20                 | 12      | 22 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 4 30                 | 12      | 23 | 28 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 4 40                 | 12      | 24 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 4 50                 | 12      | 25 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 5 0                  | 12      | 26 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 5 10                 | 12      | 27 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 5 20                 | 12      | 28 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 5 30                 | 12      | 29 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 5 40                 | 12      | 30 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 5 50                 | 12      | 31 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 6 0                  | 12      | 32 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 6 10                 | 12      | 33 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 6 20                 | 12      | 34 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 6 30                 | 12      | 35 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 6 40                 | 12      | 36 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 6 50                 | 12      | 37 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 7 0                  | 12      | 38 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 7 10                 | 12      | 39 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 7 20                 | 12      | 40 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |
| 7 30                 | 12      | 41 | 29 | 2 38   | 4 35 | 45 | 0 11  | 13 | 1 44 |

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| Signa 0                 |      |   |      |         |      |      |        |         |      | 1                       | 2  |      |         |      |       |       |       |       |       |                         | Centrum<br>Argumenti |      |         |      |       |       |       |       |       |
|-------------------------|------|---|------|---------|------|------|--------|---------|------|-------------------------|----|------|---------|------|-------|-------|-------|-------|-------|-------------------------|----------------------|------|---------|------|-------|-------|-------|-------|-------|
| Centrum Argumenti vert  |      |   |      |         |      |      |        |         |      | Centrum Argumenti vert  |    |      |         |      |       |       |       |       |       | Centrum Argumenti vert  |                      |      |         |      |       |       |       |       |       |
| Conditio vni minuto     |      |   |      |         |      |      |        |         |      | Conditio vni minuto     |    |      |         |      |       |       |       |       |       | Conditio vni minuto     |                      |      |         |      |       |       |       |       |       |
| Equatio Argumenti       |      |   |      |         |      |      |        |         |      | Equatio Argumenti       |    |      |         |      |       |       |       |       |       | Equatio Argumenti       |                      |      |         |      |       |       |       |       |       |
| Diametri proportionalia |      |   |      |         |      |      |        |         |      | Diametri proportionalia |    |      |         |      |       |       |       |       |       | Diametri proportionalia |                      |      |         |      |       |       |       |       |       |
| Diametri                |      |   |      |         |      |      |        |         |      | Diametri                |    |      |         |      |       |       |       |       |       | Diametri                |                      |      |         |      |       |       |       |       |       |
| Quaeritur               |      |   |      |         |      |      |        |         |      | Quaeritur               |    |      |         |      |       |       |       |       |       | Quaeritur               |                      |      |         |      |       |       |       |       |       |
| Signa                   |      |   |      |         |      |      |        |         |      | Signa                   |    |      |         |      |       |       |       |       |       | Signa                   |                      |      |         |      |       |       |       |       |       |
| 7 30                    | 1 6  | 0 | 0 18 | 0 35 11 | 4 42 | 5 29 | 5 1 26 | 2 49 21 | 3 34 | 9 11                    | 16 | 2 11 | 4 21 55 | 2 12 | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 11                    | 16                   | 2 11 | 4 21 55 | 2 12 | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 7 40                    | 1 8  | 0 | 0 18 | 0 36 20 |      | 5 30 | 5 1 26 | 2 49 21 | 3 34 | 9 14                    | 16 | 2 14 | 4 24 18 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 14                    | 16                   | 2 14 | 4 24 18 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 7 50                    | 1 10 | 0 | 0 19 | 0 37 7  |      | 5 32 | 5 1 27 | 2 49 40 |      | 9 16                    | 16 | 2 14 | 4 24 18 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 16                    | 16                   | 2 14 | 4 24 18 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 8 0                     | 1 11 | 0 | 0 19 | 0 37 14 |      | 5 33 | 5 1 27 | 2 50 19 |      | 9 17                    | 16 | 2 14 | 4 25 2  |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 17                    | 16                   | 2 14 | 4 25 2  |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 8 10                    | 1 11 | 0 | 0 19 | 0 38 42 |      | 5 34 | 5 1 27 | 2 50 38 |      | 9 18                    | 16 | 2 14 | 4 25 24 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 18                    | 16                   | 2 14 | 4 25 24 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 8 20                    | 1 14 | 0 | 0 20 | 0 39 29 |      | 5 36 | 5 1 28 | 2 51 18 |      | 9 19                    | 16 | 2 14 | 4 25 46 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 19                    | 16                   | 2 14 | 4 25 46 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 8 30                    | 1 16 | 0 | 0 20 | 0 40 16 |      | 5 37 | 5 1 28 | 2 52 17 |      | 9 40                    | 16 | 2 14 | 4 26 8  |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 40                    | 16                   | 2 14 | 4 26 8  |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 8 40                    | 1 17 | 0 | 0 21 | 0 41 3  |      | 5 38 | 5 1 28 | 2 52 56 |      | 9 42                    | 16 | 2 15 | 4 26 10 | 2 6  | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 42                    | 16                   | 2 15 | 4 26 10 | 2 6  | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 8 50                    | 1 19 | 0 | 0 21 | 0 41 50 |      | 5 40 | 5 1 29 | 2 53 35 |      | 9 44                    | 16 | 2 15 | 4 26 51 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 44                    | 16                   | 2 15 | 4 26 51 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 9 0                     | 1 20 | 0 | 0 21 | 0 42 37 |      | 5 41 | 5 1 29 | 2 54 14 |      | 9 44                    | 16 | 2 15 | 4 27 12 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 44                    | 16                   | 2 15 | 4 27 12 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 9 10                    | 1 22 | 0 | 0 22 | 0 43 24 |      | 5 43 | 5 1 29 | 2 54 51 |      | 9 45                    | 16 | 2 15 | 4 27 31 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 45                    | 16                   | 2 15 | 4 27 31 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 9 20                    | 1 23 | 0 | 0 22 | 0 44 11 |      | 5 44 | 5 1 30 | 2 55 32 |      | 9 47                    | 16 | 2 15 | 4 27 54 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 47                    | 16                   | 2 15 | 4 27 54 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 9 30                    | 1 25 | 0 | 0 23 | 0 44 58 |      | 5 46 | 5 1 30 | 2 56 11 |      | 9 48                    | 16 | 2 16 | 4 28 15 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 48                    | 16                   | 2 16 | 4 28 15 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 9 40                    | 1 26 | 0 | 0 23 | 0 45 45 |      | 5 47 | 5 1 30 | 2 56 50 |      | 9 49                    | 17 | 2 16 | 4 28 36 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 49                    | 17                   | 2 16 | 4 28 36 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 9 50                    | 1 28 | 0 | 0 24 | 0 46 32 |      | 5 49 | 5 1 31 | 2 57 29 |      | 9 51                    | 17 | 2 16 | 4 28 57 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 51                    | 17                   | 2 16 | 4 28 57 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 10 0                    | 1 29 | 0 | 0 24 | 0 47 19 |      | 5 50 | 5 1 31 | 2 58 7  |      | 9 52                    | 17 | 2 16 | 4 29 18 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 52                    | 17                   | 2 16 | 4 29 18 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 10 10                   | 1 31 | 0 | 0 24 | 0 48 6  |      | 5 52 | 5 1 31 | 2 58 46 |      | 9 53                    | 17 | 2 16 | 4 29 39 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 53                    | 17                   | 2 16 | 4 29 39 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 10 20                   | 1 32 | 0 | 0 25 | 0 48 53 |      | 5 53 | 5 1 32 | 2 59 24 |      | 9 54                    | 17 | 2 16 | 4 30 0  | 2 0  | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 54                    | 17                   | 2 16 | 4 30 0  | 2 0  | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 10 30                   | 1 34 | 0 | 0 25 | 0 49 40 |      | 5 55 | 5 1 32 | 3 0 3   |      | 9 56                    | 17 | 2 17 | 4 30 20 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 56                    | 17                   | 2 17 | 4 30 20 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 10 40                   | 1 35 | 0 | 0 25 | 0 50 27 |      | 5 56 | 5 1 32 | 3 0 41  | 3 48 | 9 57                    | 17 | 2 17 | 4 30 40 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 57                    | 17                   | 2 17 | 4 30 40 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 10 50                   | 1 37 | 0 | 0 26 | 0 51 14 |      | 5 58 | 5 1 33 | 3 1 58  |      | 9 58                    | 17 | 2 17 | 4 31 0  |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 58                    | 17                   | 2 17 | 4 31 0  |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 11 0                    | 1 38 | 0 | 0 26 | 0 52 0  |      | 5 59 | 5 1 33 | 3 1 58  |      | 9 59                    | 17 | 2 17 | 4 31 20 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 9 59                    | 17                   | 2 17 | 4 31 20 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 11 10                   | 1 39 | 0 | 0 26 | 0 52 47 |      | 6 0  | 6 1 33 | 3 2 36  |      | 10 0                    | 17 | 2 17 | 4 31 40 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 0                    | 17                   | 2 17 | 4 31 40 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 11 20                   | 1 41 | 0 | 0 27 | 0 53 34 |      | 6 2  | 6 1 34 | 3 3 14  |      | 10 1                    | 17 | 2 17 | 4 32 0  |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 1                    | 17                   | 2 17 | 4 32 0  |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 11 30                   | 1 42 | 0 | 0 27 | 0 54 21 |      | 6 3  | 6 1 34 | 3 3 52  |      | 10 2                    | 17 | 2 18 | 4 32 20 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 2                    | 17                   | 2 18 | 4 32 20 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 11 40                   | 1 43 | 0 | 0 27 | 0 55 8  |      | 6 4  | 6 1 34 | 3 4 30  |      | 10 4                    | 18 | 2 18 | 4 32 39 | 1 54 | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 4                    | 18                   | 2 18 | 4 32 39 | 1 54 | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 11 50                   | 1 45 | 1 | 0 28 | 0 55 55 |      | 6 6  | 6 1 35 | 3 5 8   |      | 10 5                    | 18 | 2 18 | 4 32 59 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 5                    | 18                   | 2 18 | 4 32 59 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 12 0                    | 1 46 | 1 | 0 28 | 0 56 41 |      | 6 7  | 6 1 35 | 3 5 46  |      | 10 6                    | 18 | 2 18 | 4 33 18 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 6                    | 18                   | 2 18 | 4 33 18 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 12 10                   | 1 48 | 1 | 0 28 | 0 57 28 |      | 6 9  | 6 1 35 | 3 6 24  |      | 10 7                    | 18 | 2 18 | 4 33 37 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 7                    | 18                   | 2 18 | 4 33 37 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 12 20                   | 1 49 | 1 | 0 29 | 0 58 14 |      | 6 10 | 6 1 36 | 3 7 2   |      | 10 8                    | 18 | 2 18 | 4 33 56 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 8                    | 18                   | 2 18 | 4 33 56 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 12 30                   | 1 51 | 1 | 0 29 | 0 59 1  |      | 6 12 | 6 1 36 | 3 7 40  |      | 10 10                   | 18 | 2 19 | 4 34 14 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 10                   | 18                   | 2 19 | 4 34 14 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 12 40                   | 1 52 | 1 | 0 29 | 0 59 47 |      | 6 13 | 6 1 36 | 3 8 17  | 3 42 | 10 11                   | 18 | 2 19 | 4 34 33 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 11                   | 18                   | 2 19 | 4 34 33 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 12 50                   | 1 54 | 1 | 0 30 | 1 0 14  |      | 6 15 | 6 1 37 | 3 8 54  |      | 10 12                   | 18 | 2 19 | 4 34 52 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 12                   | 18                   | 2 19 | 4 34 52 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 13 0                    | 1 55 | 1 | 0 30 | 1 1 20  |      | 6 16 | 6 1 37 | 3 9 31  |      | 10 13                   | 18 | 2 19 | 4 35 11 | 1 48 | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 13                   | 18                   | 2 19 | 4 35 11 | 1 48 | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 13 10                   | 1 57 | 1 | 0 30 | 1 2 7   |      | 6 18 | 6 1 37 | 3 10 8  |      | 10 14                   | 18 | 2 19 | 4 35 29 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 14                   | 18                   | 2 19 | 4 35 29 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 13 20                   | 1 58 | 1 | 0 31 | 1 2 51  |      | 6 19 | 6 1 38 | 3 10 46 |      | 10 15                   | 18 | 2 19 | 4 35 47 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 15                   | 18                   | 2 19 | 4 35 47 |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 |
| 13 30                   | 2 0  | 1 | 0 31 | 1 3 40  |      | 6 21 | 6 1 38 | 3 11 22 |      | 10 17                   | 18 | 2 20 | 4 36 5  |      | 22 30 | 22 30 | 22 30 | 22 30 | 22 30 | 10 17                   | 18                   | 2 20 | 4 36 5  |      | 22 30 | 22 30 | 22 30 | 22 30 |       |



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| Cetă și Argumēt veri |    | Cordele val minuo. |    | Egna no Argu. mēt. |    | Diferențe Diametr. |    | Adunare proporțională |    | Cetă și Argumēt veri |    | Cordele val minuo. |      | Egna no Argu. mēt. |     | Diferențe Diametr. |      | Adunare proporțională |      |      |
|----------------------|----|--------------------|----|--------------------|----|--------------------|----|-----------------------|----|----------------------|----|--------------------|------|--------------------|-----|--------------------|------|-----------------------|------|------|
| g                    | m  | g                  | m  | g                  | m  | g                  | m  | g                     | m  | g                    | m  | g                  | m    | g                  | m   | g                  | m    | g                     | m    |      |
| 7                    | 10 | 12                 | 14 | 12                 | 18 | 4                  | 55 | 14                    | 46 | 0 18                 | 12 | 14                 | 46   | 2 22               | 4 7 | 0                  | 2 23 | 57                    | 1 15 |      |
| 7                    | 40 | 12                 | 54 | 12                 | 18 | 4                  | 55 | 11                    | 46 | 12                   | 42 | 46                 | 2 21 | 4 6                | 11  | 7                  | 20   | 57                    | 1 14 |      |
| 7                    | 50 | 12                 | 58 | 12                 | 19 | 4                  | 55 | 28                    | 46 | 12                   | 42 | 46                 | 2 21 | 4 6                | 1   | 7                  | 17   | 57                    | 1 14 |      |
| 8                    | 0  | 12                 | 59 | 12                 | 19 | 4                  | 55 | 25                    | 46 | 12                   | 41 | 46                 | 2 21 | 4 5                | 31  | 7                  | 14   | 57                    | 1 13 |      |
| 8                    | 10 | 12                 | 57 | 12                 | 19 | 4                  | 55 | 22                    | 46 | 12                   | 40 | 46                 | 2 21 | 4 5                | 1   | 7                  | 11   | 57                    | 1 13 |      |
| 8                    | 20 | 12                 | 37 | 12                 | 19 | 4                  | 55 | 19                    | 46 | 12                   | 39 | 46                 | 2 20 | 4 4                | 11  | 7                  | 8    | 57                    | 1 12 |      |
| 8                    | 30 | 12                 | 37 | 12                 | 19 | 4                  | 55 | 16                    | 46 | 0 24                 | 12 | 39                 | 46   | 2 20               | 4 4 | 1                  | 7    | 5                     | 57   | 1 12 |
| 8                    | 40 | 12                 | 38 | 12                 | 19 | 4                  | 55 | 12                    | 46 | 12                   | 38 | 47                 | 2 20 | 4 3                | 11  | 7                  | 5    | 57                    | 1 11 |      |
| 8                    | 50 | 12                 | 38 | 12                 | 19 | 4                  | 55 | 8                     | 46 | 12                   | 37 | 47                 | 2 19 | 4 3                | 1   | 6                  | 59   | 57                    | 1 11 |      |
| 9                    | 0  | 12                 | 39 | 12                 | 19 | 4                  | 55 | 4                     | 46 | 12                   | 36 | 47                 | 2 19 | 4 2                | 10  | 6                  | 56   | 57                    | 1 10 |      |
| 9                    | 10 | 12                 | 40 | 12                 | 19 | 4                  | 55 | 1                     | 46 | 12                   | 35 | 47                 | 2 19 | 4 1                | 9   | 6                  | 54   | 57                    | 1 10 |      |
| 9                    | 20 | 12                 | 40 | 12                 | 19 | 4                  | 55 | 57                    | 46 | 12                   | 34 | 47                 | 2 19 | 4 1                | 8   | 6                  | 51   | 57                    | 1 9  |      |
| 9                    | 30 | 12                 | 41 | 12                 | 19 | 4                  | 54 | 54                    | 46 | 12                   | 33 | 47                 | 2 18 | 4 0                | 56  | 6                  | 48   | 58                    | 1 9  |      |
| 9                    | 40 | 12                 | 41 | 12                 | 19 | 4                  | 54 | 49                    | 46 | 12                   | 32 | 47                 | 2 18 | 4 0                | 54  | 6                  | 45   | 58                    | 1 9  |      |
| 9                    | 50 | 12                 | 42 | 12                 | 19 | 4                  | 54 | 45                    | 46 | 12                   | 31 | 47                 | 2 18 | 4 0                | 52  | 6                  | 42   | 58                    | 1 8  |      |
| 10                   | 0  | 12                 | 42 | 12                 | 19 | 4                  | 54 | 41                    | 46 | 12                   | 30 | 47                 | 2 18 | 4 0                | 50  | 6                  | 39   | 58                    | 1 8  |      |
| 10                   | 10 | 12                 | 43 | 12                 | 19 | 4                  | 54 | 37                    | 46 | 0 30                 | 12 | 29                 | 47   | 2 18               | 4 0 | 48                 | 6    | 36                    | 58   | 1 8  |
| 10                   | 20 | 12                 | 43 | 12                 | 19 | 4                  | 54 | 32                    | 46 | 12                   | 28 | 47                 | 2 18 | 4 0                | 46  | 6                  | 33   | 58                    | 1 7  |      |
| 10                   | 30 | 12                 | 44 | 12                 | 19 | 4                  | 54 | 27                    | 46 | 12                   | 27 | 47                 | 2 18 | 4 0                | 44  | 6                  | 30   | 58                    | 1 7  |      |
| 10                   | 40 | 12                 | 44 | 12                 | 19 | 4                  | 54 | 22                    | 46 | 12                   | 26 | 47                 | 2 17 | 4 0                | 42  | 6                  | 27   | 58                    | 1 6  |      |
| 10                   | 50 | 12                 | 45 | 12                 | 19 | 4                  | 54 | 17                    | 46 | 12                   | 24 | 47                 | 2 17 | 4 0                | 40  | 6                  | 24   | 58                    | 1 6  |      |
| 11                   | 0  | 12                 | 45 | 12                 | 19 | 4                  | 54 | 12                    | 46 | 12                   | 23 | 47                 | 2 17 | 4 0                | 38  | 6                  | 21   | 58                    | 1 5  |      |
| 11                   | 10 | 12                 | 46 | 12                 | 19 | 4                  | 54 | 7                     | 46 | 0 36                 | 12 | 22                 | 47   | 2 17               | 4 0 | 36                 | 6    | 18                    | 58   | 1 5  |
| 11                   | 20 | 12                 | 46 | 12                 | 19 | 4                  | 54 | 2                     | 46 | 12                   | 21 | 47                 | 2 16 | 4 0                | 34  | 6                  | 15   | 58                    | 1 4  |      |
| 11                   | 30 | 12                 | 47 | 12                 | 19 | 4                  | 54 | 56                    | 46 | 12                   | 20 | 47                 | 2 16 | 4 0                | 32  | 6                  | 12   | 58                    | 1 4  |      |
| 11                   | 40 | 12                 | 47 | 12                 | 19 | 4                  | 54 | 50                    | 46 | 12                   | 18 | 48                 | 2 15 | 4 0                | 30  | 6                  | 9    | 58                    | 1 3  |      |
| 11                   | 50 | 12                 | 48 | 12                 | 19 | 4                  | 54 | 44                    | 46 | 12                   | 17 | 48                 | 2 15 | 4 0                | 28  | 6                  | 6    | 58                    | 1 3  |      |
| 12                   | 0  | 12                 | 48 | 12                 | 19 | 4                  | 54 | 38                    | 46 | 12                   | 16 | 48                 | 2 15 | 4 0                | 26  | 6                  | 3    | 58                    | 1 2  |      |
| 12                   | 10 | 12                 | 49 | 12                 | 19 | 4                  | 54 | 32                    | 46 | 12                   | 15 | 48                 | 2 15 | 4 0                | 24  | 6                  | 0    | 58                    | 1 2  |      |
| 12                   | 20 | 12                 | 49 | 12                 | 19 | 4                  | 54 | 26                    | 46 | 12                   | 14 | 48                 | 2 15 | 4 0                | 22  | 6                  | 57   | 58                    | 1 1  |      |
| 12                   | 30 | 12                 | 50 | 12                 | 20 | 4                  | 54 | 20                    | 46 | 0 42                 | 12 | 13                 | 48   | 2 15               | 4 0 | 54                 | 58   | 1 1                   | 1 30 |      |
| 12                   | 40 | 12                 | 50 | 12                 | 20 | 4                  | 54 | 14                    | 46 | 12                   | 11 | 48                 | 2 14 | 4 0                | 51  | 58                 | 1 0  | 1 35                  |      |      |
| 12                   | 50 | 12                 | 51 | 12                 | 20 | 4                  | 54 | 8                     | 46 | 12                   | 10 | 48                 | 2 14 | 4 0                | 49  | 58                 | 1 0  | 1 40                  |      |      |
| 13                   | 0  | 12                 | 51 | 12                 | 20 | 4                  | 54 | 2                     | 46 | 12                   | 9  | 48                 | 2 14 | 4 0                | 47  | 58                 | 0 59 | 1 44                  |      |      |
| 13                   | 10 | 12                 | 52 | 12                 | 20 | 4                  | 54 | 52                    | 46 | 12                   | 8  | 48                 | 2 14 | 4 0                | 45  | 58                 | 0 59 | 1 48                  |      |      |
| 13                   | 20 | 12                 | 52 | 12                 | 20 | 4                  | 54 | 46                    | 46 | 12                   | 7  | 48                 | 2 13 | 4 0                | 43  | 58                 | 0 58 | 1 51                  |      |      |
| 13                   | 30 | 12                 | 53 | 12                 | 20 | 4                  | 54 | 40                    | 46 | 12                   | 6  | 48                 | 2 13 | 4 0                | 41  | 58                 | 0 58 | 1 54                  |      |      |
| 13                   | 40 | 12                 | 53 | 12                 | 20 | 4                  | 54 | 34                    | 46 | 12                   | 5  | 48                 | 2 12 | 4 0                | 39  | 58                 | 0 57 | 1 57                  |      |      |
| 13                   | 50 | 12                 | 54 | 12                 | 20 | 4                  | 54 | 28                    | 46 | 12                   | 4  | 48                 | 2 12 | 4 0                | 37  | 58                 | 0 56 | 1 59                  |      |      |
| 14                   | 0  | 12                 | 54 | 12                 | 20 | 4                  | 54 | 22                    | 46 | 12                   | 3  | 48                 | 2 12 | 4 0                | 35  | 58                 | 0 56 | 1 59                  |      |      |
| 14                   | 10 | 12                 | 55 | 12                 | 20 | 4                  | 54 | 16                    | 46 | 12                   | 2  | 48                 | 2 11 | 4 0                | 33  | 58                 | 0 55 | 1 59                  |      |      |
| 14                   | 20 | 12                 | 55 | 12                 | 20 | 4                  | 54 | 10                    | 46 | 12                   | 1  | 48                 | 2 11 | 4 0                | 31  | 58                 | 0 54 | 1 59                  |      |      |
| 14                   | 30 | 12                 | 55 | 12                 | 20 | 4                  | 54 | 4                     | 46 | 12                   | 0  | 48                 | 2 11 | 4 0                | 29  | 58                 | 0 54 | 1 59                  |      |      |
| 14                   | 40 | 12                 | 55 | 12                 | 20 | 4                  | 54 | 57                    | 46 | 12                   | 59 | 49                 | 2 10 | 4 0                | 27  | 59                 | 0 53 | 1 59                  |      |      |
| 14                   | 50 | 12                 | 56 | 12                 | 20 | 4                  | 54 | 51                    | 46 | 12                   | 58 | 49                 | 2 10 | 4 0                | 25  | 59                 | 0 53 | 1 59                  |      |      |
| 15                   | 0  | 12                 | 56 | 12                 | 20 | 4                  | 54 | 45                    | 46 | 12                   | 57 | 49                 | 2 10 | 4 0                | 23  | 59                 | 0 52 | 1 59                  |      |      |
| 15                   | 10 | 12                 | 56 | 12                 | 20 | 4                  | 54 | 39                    | 46 | 12                   | 56 | 49                 | 2 10 | 4 0                | 21  | 59                 | 0 52 | 1 59                  |      |      |

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| Signa     |        | 0         |        | 1         |        | 2         |        | Centrum   |        |
|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| Argumenti |        | Argumenti |        | Argumenti |        | Argumenti |        | Argumenti |        |
| Centr.    | Argum. | Centr.    | Argum. | Centr.    | Argum. | Centr.    | Argum. | Centr.    | Argum. |
| g         | m      | g         | m      | g         | m      | g         | m      | g         | m      |
| 15        | 0      | 2         | 13     | 1         | 0      | 35        | 1      | 10        | 18     |
| 15        | 10     | 2         | 15     | 1         | 0      | 16        | 1      | 11        | 25     |
| 15        | 20     | 2         | 16     | 1         | 0      | 36        | 1      | 12        | 11     |
| 15        | 30     | 2         | 18     | 1         | 0      | 17        | 1      | 12        | 57     |
| 15        | 40     | 2         | 19     | 1         | 0      | 37        | 1      | 13        | 43     |
| 15        | 50     | 2         | 21     | 1         | 0      | 18        | 1      | 14        | 29     |
| 16        | 0      | 2         | 22     | 1         | 0      | 38        | 1      | 15        | 15     |
| 16        | 10     | 2         | 24     | 1         | 0      | 19        | 1      | 16        | 1      |
| 16        | 20     | 2         | 25     | 1         | 0      | 39        | 1      | 16        | 47     |
| 16        | 30     | 2         | 27     | 1         | 0      | 20        | 1      | 17        | 13     |
| 16        | 40     | 2         | 28     | 1         | 0      | 39        | 1      | 18        | 19     |
| 16        | 50     | 2         | 30     | 1         | 0      | 40        | 1      | 19        | 5      |
| 17        | 0      | 2         | 31     | 1         | 0      | 40        | 1      | 19        | 51     |
| 17        | 10     | 2         | 32     | 1         | 0      | 41        | 1      | 20        | 17     |
| 17        | 20     | 2         | 34     | 1         | 0      | 41        | 1      | 21        | 23     |
| 17        | 30     | 2         | 35     | 1         | 0      | 41        | 1      | 22        | 9      |
| 17        | 40     | 2         | 36     | 1         | 0      | 41        | 1      | 22        | 55     |
| 17        | 50     | 2         | 38     | 1         | 0      | 42        | 1      | 23        | 41     |
| 18        | 0      | 2         | 39     | 1         | 0      | 42        | 1      | 24        | 27     |
| 18        | 10     | 2         | 41     | 1         | 0      | 43        | 1      | 25        | 13     |
| 18        | 20     | 2         | 42     | 1         | 0      | 43        | 1      | 25        | 59     |
| 18        | 30     | 2         | 44     | 1         | 0      | 44        | 1      | 26        | 45     |
| 18        | 40     | 2         | 45     | 1         | 0      | 44        | 1      | 27        | 31     |
| 18        | 50     | 2         | 47     | 1         | 0      | 45        | 1      | 28        | 17     |
| 19        | 0      | 2         | 48     | 1         | 0      | 45        | 1      | 29        | 3      |
| 19        | 10     | 2         | 50     | 1         | 0      | 45        | 1      | 29        | 49     |
| 19        | 20     | 2         | 51     | 1         | 0      | 46        | 1      | 30        | 15     |
| 19        | 30     | 2         | 51     | 1         | 0      | 46        | 1      | 31        | 21     |
| 19        | 40     | 2         | 54     | 1         | 0      | 46        | 1      | 32        | 7      |
| 19        | 50     | 2         | 56     | 1         | 0      | 47        | 1      | 32        | 53     |
| 20        | 0      | 2         | 57     | 1         | 0      | 47        | 1      | 33        | 39     |
| 20        | 10     | 2         | 58     | 1         | 0      | 47        | 1      | 34        | 15     |
| 20        | 20     | 3         | 0      | 1         | 0      | 48        | 1      | 35        | 1      |
| 20        | 30     | 3         | 1      | 1         | 0      | 48        | 1      | 36        | 47     |
| 20        | 40     | 3         | 2      | 1         | 0      | 48        | 1      | 37        | 33     |
| 20        | 50     | 3         | 4      | 1         | 0      | 49        | 1      | 38        | 19     |
| 21        | 0      | 3         | 5      | 1         | 0      | 49        | 1      | 39        | 5      |
| 21        | 10     | 3         | 7      | 1         | 0      | 50        | 1      | 40        | 41     |
| 21        | 20     | 3         | 8      | 1         | 0      | 50        | 1      | 41        | 27     |
| 21        | 30     | 3         | 10     | 1         | 0      | 51        | 1      | 42        | 13     |
| 21        | 40     | 3         | 11     | 1         | 0      | 51        | 1      | 43        | 59     |
| 21        | 50     | 3         | 13     | 1         | 0      | 52        | 1      | 44        | 45     |
| 22        | 0      | 3         | 14     | 1         | 0      | 52        | 1      | 45        | 31     |
| 22        | 10     | 3         | 16     | 1         | 0      | 52        | 1      | 46        | 17     |
| 22        | 20     | 3         | 17     | 1         | 0      | 53        | 1      | 47        | 3      |
| 22        | 30     | 3         | 19     | 1         | 0      | 53        | 1      | 48        | 49     |

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| Cetera Argumenti veri | Equa<br>tio<br>Cen<br>tri. | Distantia proportiona<br>lis | Distantia Diametri. | Equa<br>tio<br>Argu<br>menti. | Cordis vel minuto. | Equa<br>tio<br>Cen<br>tri. | Distantia proportiona<br>lis | Distantia Diametri. | Equa<br>tio<br>Argu<br>menti. | Cordis vel minuto. | Equa<br>tio<br>Cen<br>tri. | Distantia proportiona<br>lis | Distantia Diametri. | Equa<br>tio<br>Argu<br>menti. | Cordis vel minuto. | Cetera Argumenti veri |
|-----------------------|----------------------------|------------------------------|---------------------|-------------------------------|--------------------|----------------------------|------------------------------|---------------------|-------------------------------|--------------------|----------------------------|------------------------------|---------------------|-------------------------------|--------------------|-----------------------|
|                       |                            |                              |                     |                               |                    |                            |                              |                     |                               |                    |                            |                              |                     |                               |                    |                       |
| 15 0                  | 12 56                      | 35                           | 2 40                | 4 51 22                       | 1 0                | 11 54                      | 49                           | 2 10                | 3 42 17                       | 3 42               | 5 8                        | 59                           | 0 52                | 1 13 26                       | 5 24               | 15 0                  |
| 15 10                 | 12 56                      | 35                           | 2 40                | 4 51 12                       | 1 1                | 11 53                      | 49                           | 2 10                | 3 41 41                       |                    | 5 5                        | 59                           | 0 52                | 1 13 12                       |                    | 14 50                 |
| 15 20                 | 12 57                      | 35                           | 2 40                | 4 51 2                        | 1 1                | 11 51                      | 49                           | 2 10                | 3 41 5                        |                    | 5 2                        | 59                           | 0 51                | 1 12 38                       |                    | 14 40                 |
| 15 30                 | 12 57                      | 35                           | 2 40                | 4 50 52                       | 1 1                | 11 50                      | 49                           | 2 9                 | 3 40 28                       |                    | 4 50                       | 59                           | 0 51                | 1 12 44                       |                    | 14 30                 |
| 15 40                 | 12 57                      | 35                           | 2 40                | 4 50 42                       | 1 1                | 11 49                      | 50                           | 2 9                 | 3 39 51                       |                    | 4 55                       | 59                           | 0 50                | 1 12 30                       |                    | 14 20                 |
| 15 50                 | 12 57                      | 35                           | 2 40                | 4 50 32                       | 1 1                | 11 47                      | 50                           | 2 9                 | 3 39 14                       |                    | 4 52                       | 59                           | 0 50                | 1 12 56                       |                    | 14 10                 |
| 16 0                  | 12 58                      | 36                           | 2 40                | 4 50 22                       | 1 1                | 11 46                      | 50                           | 2 9                 | 3 38 37                       |                    | 4 49                       | 59                           | 0 49                | 1 12 1                        | 5 30               | 14 0                  |
| 16 10                 | 12 58                      | 36                           | 2 40                | 4 50 12                       | 1 1                | 11 45                      | 50                           | 2 9                 | 3 38 0                        |                    | 4 46                       | 59                           | 0 49                | 1 12 6                        |                    | 13 50                 |
| 16 20                 | 12 59                      | 36                           | 2 40                | 4 50 1                        | 1 1                | 11 44                      | 50                           | 2 8                 | 3 37 23                       |                    | 4 41                       | 59                           | 0 48                | 1 12 12                       |                    | 13 40                 |
| 16 30                 | 12 59                      | 36                           | 2 40                | 4 49 50                       | 1 1                | 11 42                      | 50                           | 2 8                 | 3 36 46                       |                    | 4 40                       | 59                           | 0 48                | 1 12 18                       |                    | 13 30                 |
| 16 40                 | 12 59                      | 36                           | 2 40                | 4 49 39                       | 1 1                | 11 41                      | 50                           | 2 8                 | 3 36 9                        | 3 48               | 4 36                       | 59                           | 0 47                | 1 12 23                       |                    | 13 20                 |
| 16 50                 | 13 0                       | 36                           | 2 40                | 4 49 28                       | 1 1                | 11 39                      | 50                           | 2 7                 | 3 35 31                       |                    | 4 33                       | 59                           | 0 47                | 1 12 29                       |                    | 13 10                 |
| 17 0                  | 13 0                       | 36                           | 2 40                | 4 49 17                       | 1 1                | 11 38                      | 50                           | 2 7                 | 3 34 51                       |                    | 4 30                       | 59                           | 0 46                | 1 12 34                       |                    | 13 0                  |
| 17 10                 | 13 1                       | 36                           | 2 40                | 4 49 6                        | 1 1                | 11 37                      | 50                           | 2 7                 | 3 34 15                       |                    | 4 27                       | 59                           | 0 45                | 1 11 40                       |                    | 12 50                 |
| 17 20                 | 13 1                       | 36                           | 2 40                | 4 48 55                       | 1 1                | 11 35                      | 50                           | 2 6                 | 3 33 37                       |                    | 4 24                       | 59                           | 0 45                | 1 10 45                       |                    | 12 40                 |
| 17 30                 | 13 1                       | 36                           | 2 40                | 4 48 44                       | 1 1                | 11 34                      | 50                           | 2 6                 | 3 32 59                       |                    | 4 21                       | 59                           | 0 44                | 1 9 50                        |                    | 12 30                 |
| 17 40                 | 13 1                       | 37                           | 2 40                | 4 48 33                       | 1 12               | 11 32                      | 51                           | 2 6                 | 3 32 20                       |                    | 4 17                       | 59                           | 0 43                | 1 8 56                        |                    | 12 20                 |
| 17 50                 | 13 2                       | 37                           | 2 40                | 4 48 12                       | 1 1                | 11 31                      | 51                           | 2 5                 | 3 31 42                       |                    | 4 14                       | 59                           | 0 43                | 1 8 1                         |                    | 12 10                 |
| 18 0                  | 13 2                       | 37                           | 2 40                | 4 48 10                       | 1 1                | 11 29                      | 51                           | 2 5                 | 3 31 3                        |                    | 4 11                       | 59                           | 0 42                | 1 7 6                         |                    | 12 0                  |
| 18 10                 | 13 2                       | 37                           | 2 40                | 4 47 58                       | 1 1                | 11 28                      | 51                           | 2 5                 | 3 30 25                       | 3 54               | 4 7                        | 59                           | 0 42                | 1 6 11                        |                    | 11 50                 |
| 18 20                 | 13 3                       | 37                           | 2 40                | 4 47 46                       | 1 18               | 11 25                      | 51                           | 2 4                 | 3 29 46                       |                    | 4 4                        | 59                           | 0 41                | 1 5 16                        |                    | 11 40                 |
| 18 30                 | 13 3                       | 37                           | 2 40                | 4 47 33                       | 1 1                | 11 25                      | 51                           | 2 4                 | 3 29 7                        |                    | 4 1                        | 59                           | 0 41                | 1 4 21                        |                    | 11 30                 |
| 18 40                 | 13 3                       | 37                           | 2 40                | 4 47 20                       | 1 1                | 11 23                      | 51                           | 2 4                 | 3 28 28                       |                    | 3 58                       | 59                           | 0 40                | 1 3 26                        |                    | 11 20                 |
| 18 50                 | 13 4                       | 37                           | 2 40                | 4 47 7                        | 1 1                | 11 22                      | 51                           | 2 3                 | 3 27 49                       |                    | 3 55                       | 59                           | 0 40                | 1 2 31                        |                    | 11 10                 |
| 19 0                  | 13 4                       | 37                           | 2 40                | 4 46 54                       | 1 1                | 11 20                      | 51                           | 2 3                 | 3 27 10                       |                    | 3 52                       | 59                           | 0 39                | 1 1 36                        |                    | 11 0                  |
| 19 10                 | 13 4                       | 37                           | 2 40                | 4 46 41                       | 1 1                | 11 19                      | 51                           | 2 3                 | 3 26 31                       |                    | 3 49                       | 59                           | 0 39                | 1 0 41                        |                    | 10 50                 |
| 19 20                 | 13 4                       | 37                           | 2 40                | 4 46 28                       | 1 1                | 11 17                      | 51                           | 2 2                 | 3 25 52                       | 4 0                | 3 45                       | 59                           | 0 38                | 0 59 45                       |                    | 10 40                 |
| 19 30                 | 13 5                       | 37                           | 2 40                | 4 46 15                       | 1 24               | 11 16                      | 51                           | 2 2                 | 3 25 12                       |                    | 3 42                       | 59                           | 0 38                | 0 58 51                       |                    | 10 30                 |
| 19 40                 | 13 5                       | 38                           | 2 39                | 4 46 1                        | 1 1                | 11 14                      | 52                           | 2 2                 | 3 24 32                       |                    | 3 39                       | 59                           | 0 37                | 0 57 56                       |                    | 10 20                 |
| 19 50                 | 13 5                       | 38                           | 2 39                | 4 45 47                       | 1 1                | 11 13                      | 52                           | 2 1                 | 3 23 52                       |                    | 3 35                       | 59                           | 0 37                | 0 57 1                        |                    | 10 10                 |
| 20 0                  | 13 5                       | 38                           | 2 39                | 4 45 33                       | 1 1                | 11 11                      | 52                           | 2 1                 | 3 23 12                       | 4 6                | 3 32                       | 59                           | 0 36                | 0 56 5                        | 5 30               | 10 0                  |
| 20 10                 | 13 5                       | 38                           | 2 39                | 4 45 19                       | 1 1                | 11 10                      | 52                           | 2 1                 | 3 22 32                       |                    | 3 29                       | 59                           | 0 35                | 0 55 10                       |                    | 9 50                  |
| 20 20                 | 13 5                       | 38                           | 2 39                | 4 45 5                        | 1 1                | 11 8                       | 52                           | 2 0                 | 3 21 52                       |                    | 3 25                       | 59                           | 0 35                | 0 54 14                       |                    | 9 40                  |
| 20 30                 | 13 6                       | 38                           | 2 39                | 4 44 51                       | 1 1                | 11 7                       | 52                           | 2 0                 | 3 21 12                       |                    | 3 22                       | 59                           | 0 34                | 0 53 19                       |                    | 9 30                  |
| 20 40                 | 13 6                       | 38                           | 2 39                | 4 44 37                       | 1 30               | 11 5                       | 52                           | 1 59                | 3 20 31                       |                    | 3 19                       | 59                           | 0 33                | 0 52 23                       |                    | 9 20                  |
| 20 50                 | 13 6                       | 38                           | 2 39                | 4 44 22                       | 1 1                | 11 4                       | 52                           | 1 59                | 3 19 50                       |                    | 3 15                       | 59                           | 0 33                | 0 51 28                       |                    | 9 10                  |
| 21 0                  | 13 6                       | 38                           | 2 39                | 4 44 7                        | 1 1                | 11 2                       | 52                           | 1 58                | 3 19 9                        |                    | 3 12                       | 59                           | 0 32                | 0 50 32                       |                    | 9 0                   |
| 21 10                 | 13 6                       | 38                           | 2 39                | 4 43 52                       | 1 1                | 11 1                       | 52                           | 1 58                | 3 18 28                       |                    | 3 9                        | 59                           | 0 32                | 0 49 37                       |                    | 8 50                  |
| 21 20                 | 13 6                       | 38                           | 2 39                | 4 43 37                       | 1 10               | 10 59                      | 52                           | 1 57                | 3 17 47                       |                    | 3 5                        | 59                           | 0 31                | 0 48 41                       |                    | 8 40                  |
| 21 30                 | 13 7                       | 38                           | 2 39                | 4 43 22                       | 1 30               | 10 58                      | 52                           | 1 57                | 3 17 6                        |                    | 3 2                        | 59                           | 0 31                | 0 47 45                       |                    | 8 30                  |
| 21 40                 | 13 7                       | 39                           | 2 38                | 4 43 6                        | 1 10               | 10 56                      | 51                           | 1 57                | 3 16 25                       |                    | 2 59                       | 60                           | 0 30                | 0 46 50                       |                    | 8 20                  |
| 21 50                 | 13 7                       | 39                           | 2 38                | 4 42 50                       | 1 10               | 10 55                      | 51                           | 1 56                | 3 15 44                       | 4 12               | 2 55                       | 60                           | 0 30                | 0 45 54                       |                    | 8 10                  |
| 22 0                  | 13 7                       | 39                           | 2 38                | 4 42 34                       | 1 10               | 10 53                      | 51                           | 1 56                | 3 15 2                        |                    | 2 52                       | 60                           | 0 29                | 0 44 58                       |                    | 8 0                   |
| 22 10                 | 13 7                       | 39                           | 2 38                | 4 42 18                       | 1 10               | 10 52                      | 51                           | 1 56                | 3 14 20                       |                    | 2 49                       | 60                           | 0 29                | 0 44 1                        |                    | 7 50                  |
| 22 20                 | 13 7                       | 39                           | 2 38                | 4 42 1                        | 1 10               | 10 50                      | 51                           | 1 55                | 3 13 38                       |                    | 2 45                       | 60                           | 0 28                | 0 43 7                        |                    | 7 40                  |
| 22 30                 | 13 8                       | 39                           | 2 38                | 4 41 45                       | 1 10               | 10 48                      | 51                           | 1 55                | 3 12 56                       |                    | 2 42                       | 60                           | 0 27                | 0 42 11                       |                    | 7 30                  |

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| Centri Argumenti veri | Equatio Cen- tri. | Diuisa proportionalia | Diuisas Diametri | Equatio Argu- menti. | Centris via minuto | Diuisa proportionalia | Diuisas Diametri | Equatio Argu- menti. | Centris via minuto | Equatio Cen- tri. | Diuisa proportionalia | Diuisas Diametri | Equatio Argu- menti. | Centri Argumenti veri |      |
|-----------------------|-------------------|-----------------------|------------------|----------------------|--------------------|-----------------------|------------------|----------------------|--------------------|-------------------|-----------------------|------------------|----------------------|-----------------------|------|
| 22 30                 | 3 19              | 2                     | 0 53             | 1 44 47              | 4 30               | 7 16                  | 9                | 1 52                 | 3 42 34            | 3 12              | 11 18                 | 22               | 2 29                 | 4 40 8                | 7 30 |
| 22 40                 | 3 20              | 2                     | 0 54             | 1 45 12              |                    | 7 17                  | 10               | 1 52                 | 3 43 6             |                   | 11 19                 | 23               | 2 29                 | 4 40 18               | 7 20 |
| 22 50                 | 3 22              | 2                     | 0 54             | 1 46 07              |                    | 7 19                  | 10               | 1 53                 | 3 43 38            |                   | 11 20                 | 23               | 2 29                 | 4 40 28               | 7 10 |
| 23 0                  | 3 23              | 2                     | 0 54             | 1 47 1               | 4 24               | 7 40                  | 10               | 1 53                 | 3 44 10            |                   | 11 21                 | 23               | 2 29                 | 4 40 38               | 7 0  |
| 23 10                 | 3 24              | 2                     | 0 55             | 1 47 46              |                    | 7 41                  | 10               | 1 53                 | 3 44 42            |                   | 11 22                 | 23               | 2 29                 | 4 40 49               | 6 50 |
| 23 20                 | 3 26              | 2                     | 0 55             | 1 48 10              |                    | 7 42                  | 10               | 1 53                 | 3 45 14            |                   | 11 23                 | 23               | 2 29                 | 4 40 59               | 6 40 |
| 23 30                 | 3 27              | 2                     | 0 56             | 1 49 14              |                    | 7 44                  | 10               | 1 54                 | 3 45 46            |                   | 11 24                 | 23               | 2 30                 | 4 40 10               | 6 30 |
| 23 40                 | 3 28              | 2                     | 0 56             | 1 49 59              |                    | 7 45                  | 10               | 1 54                 | 3 46 18            | 3 6               | 11 25                 | 23               | 2 30                 | 4 40 20               | 6 20 |
| 23 50                 | 3 30              | 2                     | 0 57             | 1 50 43              |                    | 7 47                  | 10               | 1 54                 | 3 46 49            |                   | 11 26                 | 23               | 2 30                 | 4 40 31               | 6 10 |
| 24 0                  | 3 31              | 2                     | 0 57             | 1 51 27              |                    | 7 48                  | 10               | 1 54                 | 3 47 20            |                   | 11 27                 | 23               | 2 30                 | 4 40 41               | 6 0  |
| 24 10                 | 3 33              | 2                     | 0 57             | 1 52 12              |                    | 7 49                  | 10               | 1 54                 | 3 47 51            |                   | 11 28                 | 23               | 2 30                 | 4 40 51               | 5 50 |
| 24 20                 | 3 34              | 2                     | 0 58             | 1 52 56              |                    | 7 51                  | 10               | 1 55                 | 3 48 22            |                   | 11 29                 | 23               | 2 30                 | 4 41 1                | 5 40 |
| 24 30                 | 3 36              | 2                     | 0 58             | 1 53 40              |                    | 7 52                  | 10               | 1 55                 | 3 48 53            |                   | 11 30                 | 23               | 2 31                 | 4 41 11               | 5 30 |
| 24 40                 | 3 37              | 2                     | 0 58             | 1 54 24              |                    | 7 53                  | 10               | 1 55                 | 3 49 24            |                   | 11 31                 | 24               | 2 31                 | 4 41 20               | 5 20 |
| 24 50                 | 3 39              | 2                     | 0 59             | 1 55 8               |                    | 7 55                  | 10               | 1 56                 | 3 49 55            |                   | 11 32                 | 24               | 2 31                 | 4 41 29               | 5 10 |
| 25 0                  | 3 40              | 2                     | 0 59             | 1 55 52              |                    | 7 56                  | 10               | 1 56                 | 3 50 26            |                   | 11 33                 | 24               | 2 31                 | 4 41 39               | 5 0  |
| 25 10                 | 3 42              | 2                     | 0 59             | 1 56 36              |                    | 7 57                  | 10               | 1 56                 | 3 50 57            |                   | 11 34                 | 24               | 2 31                 | 4 41 47               | 4 50 |
| 25 20                 | 3 43              | 2                     | 1 0              | 1 57 20              |                    | 7 59                  | 10               | 1 57                 | 3 51 28            |                   | 11 35                 | 24               | 2 31                 | 4 41 56               | 4 40 |
| 25 30                 | 3 45              | 2                     | 1 0              | 1 58 4               |                    | 8 0                   | 10               | 1 57                 | 3 51 59            | 3 0               | 11 36                 | 24               | 2 32                 | 4 42 4                | 4 30 |
| 25 40                 | 3 46              | 3                     | 1 0              | 1 58 48              |                    | 8 1                   | 11               | 1 57                 | 3 52 29            |                   | 11 37                 | 24               | 2 32                 | 4 42 12               | 4 20 |
| 25 50                 | 3 48              | 3                     | 1 1              | 1 59 12              |                    | 8 3                   | 11               | 1 58                 | 3 52 59            |                   | 11 38                 | 24               | 2 32                 | 4 42 20               | 4 10 |
| 26 0                  | 3 49              | 3                     | 1 1              | 0 15                 |                    | 8 4                   | 11               | 1 58                 | 3 53 29            |                   | 11 39                 | 24               | 2 32                 | 4 42 28               | 4 0  |
| 26 10                 | 3 50              | 3                     | 1 1              | 2 0 59               |                    | 8 5                   | 11               | 1 58                 | 3 54 0             |                   | 11 40                 | 24               | 2 32                 | 4 42 36               | 3 50 |
| 26 20                 | 3 51              | 3                     | 1 2              | 2 1 43               |                    | 8 7                   | 11               | 1 58                 | 3 54 30            |                   | 11 41                 | 24               | 2 32                 | 4 42 43               | 3 40 |
| 26 30                 | 3 53              | 3                     | 1 2              | 2 2 26               |                    | 8 8                   | 11               | 1 58                 | 3 55 0             |                   | 11 42                 | 24               | 2 33                 | 4 42 50               | 3 30 |
| 26 40                 | 3 54              | 3                     | 1 2              | 2 3 10               |                    | 8 9                   | 11               | 1 59                 | 3 55 30            |                   | 11 43                 | 24               | 2 33                 | 4 42 57               | 3 20 |
| 26 50                 | 3 56              | 3                     | 1 3              | 2 3 54               |                    | 8 11                  | 11               | 1 59                 | 3 56 0             |                   | 11 44                 | 25               | 2 33                 | 4 43 4                | 3 10 |
| 27 0                  | 3 57              | 3                     | 1 3              | 2 4 37               | 4 18               | 8 12                  | 11               | 1 59                 | 3 56 30            |                   | 11 45                 | 25               | 2 33                 | 4 43 11               | 3 0  |
| 27 10                 | 3 59              | 3                     | 1 4              | 2 5 21               |                    | 8 13                  | 11               | 1 59                 | 3 57 0             |                   | 11 46                 | 25               | 2 33                 | 4 43 18               | 2 50 |
| 27 20                 | 4 0               | 3                     | 1 4              | 2 6 4                |                    | 8 15                  | 11               | 2 0                  | 3 57 30            | 2 54              | 11 46                 | 25               | 2 33                 | 4 43 25               | 2 40 |
| 27 30                 | 4 2               | 3                     | 1 5              | 2 6 47               |                    | 8 16                  | 11               | 2 0                  | 3 57 59            |                   | 11 47                 | 25               | 2 34                 | 4 43 32               | 2 30 |
| 27 40                 | 4 3               | 3                     | 1 5              | 2 7 31               |                    | 8 17                  | 11               | 2 0                  | 3 58 28            |                   | 11 48                 | 25               | 2 34                 | 4 43 38               | 2 20 |
| 27 50                 | 4 5               | 3                     | 1 6              | 2 8 14               |                    | 8 19                  | 11               | 2 1                  | 3 58 57            |                   | 11 49                 | 25               | 2 34                 | 4 43 44               | 2 10 |
| 28 0                  | 4 6               | 3                     | 1 6              | 2 8 57               |                    | 8 20                  | 11               | 2 1                  | 3 59 26            |                   | 11 50                 | 25               | 2 34                 | 4 43 50               | 2 0  |
| 28 10                 | 4 8               | 3                     | 1 6              | 2 9 40               |                    | 8 21                  | 11               | 2 1                  | 3 59 55            |                   | 11 51                 | 25               | 2 34                 | 4 43 56               | 1 50 |
| 28 20                 | 4 9               | 3                     | 1 7              | 2 10 23              |                    | 8 23                  | 11               | 2 1                  | 4 0 24             |                   | 11 52                 | 25               | 2 34                 | 4 44 2                | 1 40 |
| 28 30                 | 4 11              | 3                     | 1 7              | 2 11 6               |                    | 8 24                  | 11               | 2 2                  | 4 0 53             |                   | 11 53                 | 25               | 2 35                 | 4 44 8                | 1 30 |
| 28 40                 | 4 12              | 3                     | 1 7              | 2 11 49              |                    | 8 25                  | 12               | 2 2                  | 4 1 21             |                   | 11 54                 | 26               | 2 35                 | 4 44 14               | 1 20 |
| 28 50                 | 4 14              | 3                     | 1 8              | 2 12 32              |                    | 8 27                  | 12               | 2 2                  | 4 1 49             | 2 48              | 11 54                 | 26               | 2 35                 | 4 44 20               | 1 10 |
| 29 0                  | 4 15              | 3                     | 1 8              | 2 13 14              |                    | 8 28                  | 12               | 2 2                  | 4 2 17             |                   | 11 55                 | 26               | 2 35                 | 4 44 25               | 1 0  |
| 29 10                 | 4 16              | 3                     | 1 8              | 2 13 57              |                    | 8 29                  | 12               | 2 2                  | 4 2 45             |                   | 11 56                 | 26               | 2 35                 | 4 44 30               | 0 50 |
| 29 20                 | 4 18              | 3                     | 1 9              | 2 14 39              |                    | 8 31                  | 12               | 2 2                  | 4 3 13             |                   | 11 57                 | 26               | 2 35                 | 4 44 35               | 0 40 |
| 29 30                 | 4 19              | 3                     | 1 9              | 2 15 22              |                    | 8 32                  | 12               | 2 2                  | 4 3 41             |                   | 11 58                 | 26               | 2 36                 | 4 44 40               | 0 30 |
| 29 40                 | 4 20              | 3                     | 1 9              | 2 16 4               |                    | 8 33                  | 12               | 2 3                  | 4 4 9              |                   | 11 58                 | 26               | 2 36                 | 4 44 45               | 0 20 |
| 29 50                 | 4 21              | 3                     | 1 10             | 2 16 47              |                    | 8 35                  | 12               | 2 3                  | 4 4 37             |                   | 11 59                 | 26               | 2 36                 | 4 44 50               | 0 10 |
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| 0 6                            | 0 7  | 0 8   | 0 9  | 0 10  | 0 11 | 0 12 | 0 13 | 0 14 | 0 15 | 0 16 | 0 17 | 0 18 | 0 19 |
| 0 7                            | 0 8  | 0 9   | 0 10 | 0 11  | 0 12 | 0 13 | 0 14 | 0 15 | 0 16 | 0 17 | 0 18 | 0 19 | 0 20 |
| 0 8                            | 0 9  | 0 10  | 0 11 | 0 12  | 0 13 | 0 14 | 0 15 | 0 16 | 0 17 | 0 18 | 0 19 | 0 20 | 0 21 |
| 0 9                            | 0 10 | 0 11  | 0 12 | 0 13  | 0 14 | 0 15 | 0 16 | 0 17 | 0 18 | 0 19 | 0 20 | 0 21 | 0 22 |
| 0 10                           | 0 11 | 0 12  | 0 13 | 0 14  | 0 15 | 0 16 | 0 17 | 0 18 | 0 19 | 0 20 | 0 21 | 0 22 | 0 23 |
| 0 11                           | 0 12 | 0 13  | 0 14 | 0 15  | 0 16 | 0 17 | 0 18 | 0 19 | 0 20 | 0 21 | 0 22 | 0 23 | 0 24 |
| 0 12                           | 0 13 | 0 14  | 0 15 | 0 16  | 0 17 | 0 18 | 0 19 | 0 20 | 0 21 | 0 22 | 0 23 | 0 24 | 0 25 |
| 0 13                           | 0 14 | 0 15  | 0 16 | 0 17  | 0 18 | 0 19 | 0 20 | 0 21 | 0 22 | 0 23 | 0 24 | 0 25 | 0 26 |
| 0 14                           | 0 15 | 0 16  | 0 17 | 0 18  | 0 19 | 0 20 | 0 21 | 0 22 | 0 23 | 0 24 | 0 25 | 0 26 | 0 27 |
| 0 15                           | 0 16 | 0 17  | 0 18 | 0 19  | 0 20 | 0 21 | 0 22 | 0 23 | 0 24 | 0 25 | 0 26 | 0 27 | 0 28 |
| 0 16                           | 0 17 | 0 18  | 0 19 | 0 20  | 0 21 | 0 22 | 0 23 | 0 24 | 0 25 | 0 26 | 0 27 | 0 28 | 0 29 |
| 0 17                           | 0 18 | 0 19  | 0 20 | 0 21  | 0 22 | 0 23 | 0 24 | 0 25 | 0 26 | 0 27 | 0 28 | 0 29 | 0 30 |
| 0 18                           | 0 19 | 0 20  | 0 21 | 0 22  | 0 23 | 0 24 | 0 25 | 0 26 | 0 27 | 0 28 | 0 29 | 0 30 | 0 31 |
| 0 19                           | 0 20 | 0 21  | 0 22 | 0 23  | 0 24 | 0 25 | 0 26 | 0 27 | 0 28 | 0 29 | 0 30 | 0 31 | 0 32 |
| 0 20                           | 0 21 | 0 22  | 0 23 | 0 24  | 0 25 | 0 26 | 0 27 | 0 28 | 0 29 | 0 30 | 0 31 | 0 32 | 0 33 |
| 0 21                           | 0 22 | 0 23  | 0 24 | 0 25  | 0 26 | 0 27 | 0 28 | 0 29 | 0 30 | 0 31 | 0 32 | 0 33 | 0 34 |
| 0 22                           | 0 23 | 0 24  | 0 25 | 0 26  | 0 27 | 0 28 | 0 29 | 0 30 | 0 31 | 0 32 | 0 33 | 0 34 | 0 35 |
| 0 23                           | 0 24 | 0 25  | 0 26 | 0 27  | 0 28 | 0 29 | 0 30 | 0 31 | 0 32 | 0 33 | 0 34 | 0 35 | 0 36 |
| 0 24                           | 0 25 | 0 26  | 0 27 | 0 28  | 0 29 | 0 30 | 0 31 | 0 32 | 0 33 | 0 34 | 0 35 | 0 36 | 0 37 |
| 0 25                           | 0 26 | 0 27  | 0 28 | 0 29  | 0 30 | 0 31 | 0 32 | 0 33 | 0 34 | 0 35 | 0 36 | 0 37 | 0 38 |
| 0 26                           | 0 27 | 0 28  | 0 29 | 0 30  | 0 31 | 0 32 | 0 33 | 0 34 | 0 35 | 0 36 | 0 37 | 0 38 | 0 39 |
| 0 27                           | 0 28 | 0 29  | 0 30 | 0 31  | 0 32 | 0 33 | 0 34 | 0 35 | 0 36 | 0 37 | 0 38 | 0 39 | 0 40 |
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| 0 29                           | 0 30 | 0 31  | 0 32 | 0 33  | 0 34 | 0 35 | 0 36 | 0 37 | 0 38 | 0 39 | 0 40 | 0 41 | 0 42 |
| 0 30                           | 0 31 | 0 32  | 0 33 | 0 34  | 0 35 | 0 36 | 0 37 | 0 38 | 0 39 | 0 40 | 0 41 | 0 42 | 0 43 |
| 1 0                            | 0 32 | 0 33  | 0 34 | 0 35  | 0 36 | 0 37 | 0 38 | 0 39 | 0 40 | 0 41 | 0 42 | 0 43 | 0 44 |
| 1 10                           | 0 34 | 0 35  | 0 36 | 0 37  | 0 38 | 0 39 | 0 40 | 0 41 | 0 42 | 0 43 | 0 44 | 0 45 | 0 46 |
| 2 0                            | 0 36 | 0 37  | 0 38 | 0 39  | 0 40 | 0 41 | 0 42 | 0 43 | 0 44 | 0 45 | 0 46 | 0 47 | 0 48 |
| 2 10                           | 0 38 | 0 39  | 0 40 | 0 41  | 0 42 | 0 43 | 0 44 | 0 45 | 0 46 | 0 47 | 0 48 | 0 49 | 0 50 |
| 3 0                            | 0 40 | 0 41  | 0 42 | 0 43  | 0 44 | 0 45 | 0 46 | 0 47 | 0 48 | 0 49 | 0 50 | 0 51 | 0 52 |
| 3 10                           | 0 42 | 0 43  | 0 44 | 0 45  | 0 46 | 0 47 | 0 48 | 0 49 | 0 50 | 0 51 | 0 52 | 0 53 | 0 54 |
| 4 0                            | 0 44 | 0 45  | 0 46 | 0 47  | 0 48 | 0 49 | 0 50 | 0 51 | 0 52 | 0 53 | 0 54 | 0 55 | 0 56 |
| 4 10                           | 0 46 | 0 47  | 0 48 | 0 49  | 0 50 | 0 51 | 0 52 | 0 53 | 0 54 | 0 55 | 0 56 | 0 57 | 0 58 |
| 5 0                            | 0 48 | 0 49  | 0 50 | 0 51  | 0 52 | 0 53 | 0 54 | 0 55 | 0 56 | 0 57 | 0 58 | 0 59 | 0 60 |
| 5 10                           | 0 50 | 0 51  | 0 52 | 0 53  | 0 54 | 0 55 | 0 56 | 0 57 | 0 58 | 0 59 | 0 60 | 0 61 | 0 62 |
| 6 0                            | 0 52 | 0 53  | 0 54 | 0 55  | 0 56 | 0 57 | 0 58 | 0 59 | 0 60 | 0 61 | 0 62 | 0 63 | 0 64 |
| 6 10                           | 0 54 | 0 55  | 0 56 | 0 57  | 0 58 | 0 59 | 0 60 | 0 61 | 0 62 | 0 63 | 0 64 | 0 65 | 0 66 |
| 7 0                            | 0 56 | 0 57  | 0 58 | 0 59  | 0 60 | 0 61 | 0 62 | 0 63 | 0 64 | 0 65 | 0 66 | 0 67 | 0 68 |
| 7 10                           | 0 58 | 0 59  | 0 60 | 0 61  | 0 62 | 0 63 | 0 64 | 0 65 | 0 66 | 0 67 | 0 68 | 0 69 | 0 70 |
| 8 0                            | 0 60 | 0 61  | 0 62 | 0 63  | 0 64 | 0 65 | 0 66 | 0 67 | 0 68 | 0 69 | 0 70 | 0 71 | 0 72 |
| 8 10                           | 0 62 | 0 63  | 0 64 | 0 65  | 0 66 | 0 67 | 0 68 | 0 69 | 0 70 | 0 71 | 0 72 | 0 73 | 0 74 |
| 9 0                            | 0 64 | 0 65  | 0 66 | 0 67  | 0 68 | 0 69 | 0 70 | 0 71 | 0 72 | 0 73 | 0 74 | 0 75 | 0 76 |
| 9 10                           | 0 66 | 0 67  | 0 68 | 0 69  | 0 70 | 0 71 | 0 72 | 0 73 | 0 74 | 0 75 | 0 76 | 0 77 | 0 78 |
| 10 0                           | 0 68 | 0 69  | 0 70 | 0 71  | 0 72 | 0 73 | 0 74 | 0 75 | 0 76 | 0 77 | 0 78 | 0 79 | 0 80 |
| 10 10                          | 0 70 | 0 71  | 0 72 | 0 73  | 0 74 | 0 75 | 0 76 | 0 77 | 0 78 | 0 79 | 0 80 | 0 81 | 0 82 |
| 11 0                           | 0 72 | 0 73  | 0 74 | 0 75  | 0 76 | 0 77 | 0 78 | 0 79 | 0 80 | 0 81 | 0 82 | 0 83 | 0 84 |
| 11 10                          | 0 74 | 0 75  | 0 76 | 0 77  | 0 78 | 0 79 | 0 80 | 0 81 | 0 82 | 0 83 | 0 84 | 0 85 | 0 86 |
| 12 0                           | 0 76 | 0 77  | 0 78 | 0 79  | 0 80 | 0 81 | 0 82 | 0 83 | 0 84 | 0 85 | 0 86 | 0 87 | 0 88 |
| 12 10                          | 0 78 | 0 79  | 0 80 | 0 81  | 0 82 | 0 83 | 0 84 | 0 85 | 0 86 | 0 87 | 0 88 | 0 89 | 0 90 |
| 13 0                           | 0 80 | 0 81  | 0 82 | 0 83  | 0 84 | 0 85 | 0 86 | 0 87 | 0 88 | 0 89 | 0 90 | 0 91 | 0 92 |
| 13 10                          | 0 82 | 0 83  | 0 84 | 0 85  | 0 86 | 0 87 | 0 88 | 0 89 | 0 90 | 0 91 | 0 92 | 0 93 | 0 94 |
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|---|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
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| 3 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 4 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
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| II |  |  |    |  |  |    |  |  |   |  |  |
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Tabula Distinctionis visibilis vera Ad Clima Sextū.

| Argumenti Lune Signa. |           |           |           |           |           |           |           |           |           |           |           |
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| 0                     | 1         | 2         | 3         | 4         | 5         | 6         |           |           |           |           |           |
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| Lat                   | Lat       | Lat       | Lat       | Lat       | Lat       | Lat       | Lat       | Lat       | Lat       | Lat       | Lat       |
| °                     | °         | °         | °         | °         | °         | °         | °         | °         | °         | °         | °         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        |
| 12                    | 11        | 10        | 9         | 8         | 7         | 6         | 5         | 4         | 3         | 2         | 1         |
| 0                     | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        |           |

|    |   | D       |       | G       |       | K       |       | F       |       | C       |       |         |       |
|----|---|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
|    |   | gradus. | Temp. | gradus. | Temp. | gradus. | Temp. | gradus. | Temp. | gradus. | Temp. | gradus. | Temp. |
| 1  | 0 | 0       | 1     | 0       | 1     | 0       | 1     | 0       | 1     | 0       | 1     | 0       | 1     |
| 2  | 0 | 0       | 2     | 0       | 2     | 0       | 2     | 0       | 2     | 0       | 2     | 0       | 2     |
| 3  | 0 | 0       | 3     | 0       | 3     | 0       | 3     | 0       | 3     | 0       | 3     | 0       | 3     |
| 4  | 0 | 0       | 4     | 0       | 4     | 0       | 4     | 0       | 4     | 0       | 4     | 0       | 4     |
| 5  | 0 | 0       | 5     | 0       | 5     | 0       | 5     | 0       | 5     | 0       | 5     | 0       | 5     |
| 6  | 0 | 0       | 6     | 0       | 6     | 0       | 6     | 0       | 6     | 0       | 6     | 0       | 6     |
| 7  | 0 | 0       | 7     | 0       | 7     | 0       | 7     | 0       | 7     | 0       | 7     | 0       | 7     |
| 8  | 0 | 0       | 8     | 0       | 8     | 0       | 8     | 0       | 8     | 0       | 8     | 0       | 8     |
| 9  | 0 | 0       | 9     | 0       | 9     | 0       | 9     | 0       | 9     | 0       | 9     | 0       | 9     |
| 10 | 0 | 0       | 10    | 0       | 10    | 0       | 10    | 0       | 10    | 0       | 10    | 0       | 10    |
| 11 | 0 | 0       | 11    | 0       | 11    | 0       | 11    | 0       | 11    | 0       | 11    | 0       | 11    |
| 12 | 0 | 0       | 12    | 0       | 12    | 0       | 12    | 0       | 12    | 0       | 12    | 0       | 12    |
| 13 | 0 | 0       | 13    | 0       | 13    | 0       | 13    | 0       | 13    | 0       | 13    | 0       | 13    |
| 14 | 0 | 0       | 14    | 0       | 14    | 0       | 14    | 0       | 14    | 0       | 14    | 0       | 14    |
| 15 | 0 | 0       | 15    | 0       | 15    | 0       | 15    | 0       | 15    | 0       | 15    | 0       | 15    |
| 16 | 0 | 0       | 16    | 0       | 16    | 0       | 16    | 0       | 16    | 0       | 16    | 0       | 16    |
| 17 | 0 | 0       | 17    | 0       | 17    | 0       | 17    | 0       | 17    | 0       | 17    | 0       | 17    |
| 18 | 0 | 0       | 18    | 0       | 18    | 0       | 18    | 0       | 18    | 0       | 18    | 0       | 18    |
| 19 | 0 | 0       | 19    | 0       | 19    | 0       | 19    | 0       | 19    | 0       | 19    | 0       | 19    |
| 20 | 0 | 0       | 20    | 0       | 20    | 0       | 20    | 0       | 20    | 0       | 20    | 0       | 20    |
| 21 | 0 | 0       | 21    | 0       | 21    | 0       | 21    | 0       | 21    | 0       | 21    | 0       | 21    |
| 22 | 0 | 0       | 22    | 0       | 22    | 0       | 22    | 0       | 22    | 0       | 22    | 0       | 22    |
| 23 | 0 | 0       | 23    | 0       | 23    | 0       | 23    | 0       | 23    | 0       | 23    | 0       | 23    |
| 24 | 0 | 0       | 24    | 0       | 24    | 0       | 24    | 0       | 24    | 0       | 24    | 0       | 24    |
| 25 | 0 | 0       | 25    | 0       | 25    | 0       | 25    | 0       | 25    | 0       | 25    | 0       | 25    |
| 26 | 0 | 0       | 26    | 0       | 26    | 0       | 26    | 0       | 26    | 0       | 26    | 0       | 26    |
| 27 | 0 | 0       | 27    | 0       | 27    | 0       | 27    | 0       | 27    | 0       | 27    | 0       | 27    |
| 28 | 0 | 0       | 28    | 0       | 28    | 0       | 28    | 0       | 28    | 0       | 28    | 0       | 28    |
| 29 | 0 | 0       | 29    | 0       | 29    | 0       | 29    | 0       | 29    | 0       | 29    | 0       | 29    |
| 30 | 0 | 0       | 30    | 0       | 30    | 0       | 30    | 0       | 30    | 0       | 30    | 0       | 30    |
| 31 | 0 | 0       | 31    | 0       | 31    | 0       | 31    | 0       | 31    | 0       | 31    | 0       | 31    |
| 32 | 0 | 0       | 32    | 0       | 32    | 0       | 32    | 0       | 32    | 0       | 32    | 0       | 32    |
| 33 | 0 | 0       | 33    | 0       | 33    | 0       | 33    | 0       | 33    | 0       | 33    | 0       | 33    |
| 34 | 0 | 0       | 34    | 0       | 34    | 0       | 34    | 0       | 34    | 0       | 34    | 0       | 34    |
| 35 | 0 | 0       | 35    | 0       | 35    | 0       | 35    | 0       | 35    | 0       | 35    | 0       | 35    |
| 36 | 0 | 0       | 36    | 0       | 36    | 0       | 36    | 0       | 36    | 0       | 36    | 0       | 36    |



# Tabula Distantie pfectionis visibilis vera Ad Clima Sexti.

S E C U N D U S

0 1 2 3 4 5

Argumenti Lune Signa.

6

12 11 10 9 8 7

| Distantis celestis<br>vera meridie<br>m | Eclips |      | Eclips |      | Eclips |      | Eclips |      | Eclips |      | Eclips |      | Eclips |      | Eclips |      | m  | mi | sec |
|---|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|----|----|-----|
|   | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long |    |    |     |
| 4 12                                    | 1 37   | 26   | 1 38   | 27   | 1 37   | 28   | 1 35   | 29   | 1 31   | 31   | 1 31   | 32   | 1 30   | 32   | 1 28   | 34   | 3  | 40 | 42  |
| 4 11                                    | 1 31   | 30   | 1 33   | 31   | 1 32   | 32   | 1 31   | 33   | 1 29   | 34   | 1 27   | 35   | 1 26   | 36   | 1 24   | 38   | 4  | 39 | 41  |
| 4 10                                    | 1 21   | 35   | 1 21   | 36   | 1 21   | 37   | 1 20   | 39   | 1 18   | 40   | 1 16   | 41   | 1 15   | 42   | 1 13   | 44   | 5  | 38 | 40  |
| 4 9                                     | 1 10   | 39   | 1 10   | 40   | 1 10   | 41   | 0 58   | 43   | 0 57   | 45   | 0 56   | 46   | 0 55   | 47   | 0 53   | 49   | 6  | 37 | 39  |
| 4 8                                     | 0 52   | 42   | 0 52   | 43   | 0 51   | 45   | 0 50   | 47   | 0 49   | 49   | 0 48   | 51   | 0 47   | 52   | 0 45   | 54   | 7  | 36 | 38  |
| 4 7                                     | 0 41   | 46   | 0 41   | 47   | 0 40   | 49   | 0 39   | 51   | 0 38   | 53   | 0 37   | 55   | 0 36   | 56   | 0 34   | 58   | 8  | 35 | 37  |
| 4 6                                     | 0 30   | 49   | 0 30   | 50   | 0 29   | 52   | 0 28   | 54   | 0 27   | 56   | 0 26   | 58   | 0 25   | 59   | 0 23   | 61   | 9  | 34 | 36  |
| 4 5                                     | 0 19   | 53   | 0 19   | 54   | 0 18   | 56   | 0 17   | 58   | 0 16   | 60   | 0 15   | 62   | 0 14   | 63   | 0 12   | 65   | 10 | 33 | 35  |
| 4 4                                     | 0 08   | 56   | 0 08   | 57   | 0 07   | 59   | 0 06   | 61   | 0 05   | 63   | 0 04   | 65   | 0 03   | 66   | 0 01   | 68   | 11 | 32 | 34  |
| 4 3                                     | 0 00   | 59   | 0 00   | 60   | 0 00   | 62   | 0 00   | 64   | 0 00   | 66   | 0 00   | 68   | 0 00   | 69   | 0 00   | 71   | 12 | 31 | 33  |

Monogestinus gradus ab ascendente.

| Distantis celestis<br>vera meridie<br>m | Eclips |      | Eclips |      | Eclips |      | Eclips |      | Eclips |      | Eclips |      | Eclips |      | Eclips |      | m  | mi | sec |
|---|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|----|----|-----|
|   | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long | Lat    | Long |    |    |     |
| 4 12                                    | 1 37   | 26   | 1 38   | 27   | 1 37   | 28   | 1 35   | 29   | 1 31   | 31   | 1 31   | 32   | 1 30   | 32   | 1 28   | 34   | 3  | 40 | 42  |
| 4 11                                    | 1 31   | 30   | 1 33   | 31   | 1 32   | 32   | 1 31   | 33   | 1 29   | 34   | 1 27   | 35   | 1 26   | 36   | 1 24   | 38   | 4  | 39 | 41  |
| 4 10                                    | 1 21   | 35   | 1 21   | 36   | 1 21   | 37   | 1 20   | 39   | 1 18   | 40   | 1 16   | 41   | 1 15   | 42   | 1 13   | 44   | 5  | 38 | 40  |
| 4 9                                     | 1 10   | 39   | 1 10   | 40   | 1 10   | 41   | 0 58   | 43   | 0 57   | 45   | 0 56   | 46   | 0 55   | 47   | 0 53   | 49   | 6  | 37 | 39  |
| 4 8                                     | 0 52   | 42   | 0 52   | 43   | 0 51   | 45   | 0 50   | 47   | 0 49   | 49   | 0 48   | 51   | 0 47   | 52   | 0 45   | 54   | 7  | 36 | 38  |
| 4 7                                     | 0 41   | 46   | 0 41   | 47   | 0 40   | 49   | 0 39   | 51   | 0 38   | 53   | 0 37   | 55   | 0 36   | 56   | 0 34   | 58   | 8  | 35 | 37  |
| 4 6                                     | 0 30   | 49   | 0 30   | 50   | 0 29   | 52   | 0 28   | 54   | 0 27   | 56   | 0 26   | 58   | 0 25   | 59   | 0 23   | 61   | 9  | 34 | 36  |
| 4 5                                     | 0 19   | 53   | 0 19   | 54   | 0 18   | 56   | 0 17   | 58   | 0 16   | 60   | 0 15   | 62   | 0 14   | 63   | 0 12   | 65   | 10 | 33 | 35  |
| 4 4                                     | 0 08   | 56   | 0 08   | 57   | 0 07   | 59   | 0 06   | 61   | 0 05   | 63   | 0 04   | 65   | 0 03   | 66   | 0 01   | 68   | 11 | 32 | 34  |
| 4 3                                     | 0 00   | 59   | 0 00   | 60   | 0 00   | 62   | 0 00   | 64   | 0 00   | 66   | 0 00   | 68   | 0 00   | 69   | 0 00   | 71   | 12 | 31 | 33  |

Monogestinus gradus ab ascendente.



Tabula distantie positionis visibilia vera ab Clima Sexto.

0 1 2 3 4 5

Argumenti Lune Signa.

6

12 11 10 9 8 7

| Distantia<br>visibilia<br>vera<br>marchia | 0    |      | 1    |      | 2    |      | 3    |      | 4    |      | 5    |      | 6    |      |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|   | Lat  | Long | Lat  | Long | Lat  | Long | Lat  | Long | Lat  | Long | Lat  | Long | Lat  | Long |
| 4 32                                      | 0 57 | 45   | 0 56 | 46   | 0 55 | 47   | 0 55 | 49   | 0 53 | 51   | 0 51 | 53   | 0 50 | 54   |
| 4 30                                      | 0 46 | 46   | 0 45 | 47   | 0 45 | 49   | 0 44 | 49   | 0 43 | 51   | 0 42 | 54   | 0 42 | 55   |
| 4 28                                      | 0 36 | 47   | 0 35 | 48   | 0 35 | 50   | 0 34 | 51   | 0 33 | 54   | 0 32 | 55   | 0 32 | 56   |
| 4 26                                      | 0 26 | 48   | 0 25 | 49   | 0 25 | 51   | 0 24 | 52   | 0 23 | 55   | 0 22 | 56   | 0 22 | 57   |
| Monogrimus gradus ab ascendente.          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1 5                                       | 0 0  | 46   | 0 0  | 47   | 0 0  | 49   | 0 0  | 51   | 0 0  | 53   | 0 0  | 54   | 0 0  | 55   |
| 1 3                                       | 0 3  | 46   | 0 3  | 47   | 0 3  | 49   | 0 3  | 51   | 0 3  | 53   | 0 3  | 54   | 0 3  | 55   |
| 1 1                                       | 0 32 | 43   | 0 32 | 44   | 0 31 | 46   | 0 30 | 48   | 0 30 | 50   | 0 29 | 51   | 0 29 | 52   |
| 1 0                                       | 0 19 | 43   | 0 19 | 44   | 0 19 | 46   | 0 18 | 48   | 0 18 | 50   | 0 17 | 51   | 0 17 | 52   |
| 2 0                                       | 1 21 | 35   | 1 21 | 36   | 1 21 | 37   | 1 20 | 39   | 1 19 | 40   | 1 18 | 41   | 1 18 | 42   |
| 3 0                                       | 1 31 | 30   | 1 31 | 31   | 1 31 | 32   | 1 31 | 33   | 1 30 | 34   | 1 29 | 35   | 1 29 | 36   |
| 4 0                                       | 1 37 | 26   | 1 37 | 27   | 1 37 | 28   | 1 37 | 29   | 1 36 | 31   | 1 35 | 32   | 1 35 | 33   |

0 1 2 3 4 5

| Distantia<br>visibilia<br>vera<br>marchia | 0    |      | 1    |      | 2    |      | 3    |      | 4    |      | 5    |      | 6    |      |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|   | Lat  | Long | Lat  | Long | Lat  | Long | Lat  | Long | Lat  | Long | Lat  | Long | Lat  | Long |
| 5 12                                      | 0 45 | 47   | 0 45 | 48   | 0 45 | 50   | 0 44 | 52   | 0 43 | 54   | 0 42 | 56   | 0 42 | 57   |
| 5 10                                      | 0 35 | 47   | 0 35 | 48   | 0 35 | 50   | 0 34 | 52   | 0 33 | 54   | 0 32 | 56   | 0 32 | 57   |
| 4 40                                      | 0 26 | 47   | 0 26 | 48   | 0 25 | 50   | 0 25 | 52   | 0 24 | 54   | 0 23 | 56   | 0 23 | 57   |
| 4 20                                      | 0 16 | 45   | 0 16 | 46   | 0 16 | 47   | 0 15 | 49   | 0 15 | 51   | 0 14 | 53   | 0 14 | 54   |
| 4 0                                       | 0 6  | 45   | 0 6  | 46   | 0 6  | 47   | 0 6  | 49   | 0 6  | 51   | 0 5  | 53   | 0 5  | 54   |
| 3 45                                      | 0 0  | 45   | 0 0  | 46   | 0 0  | 47   | 0 0  | 49   | 0 0  | 51   | 0 0  | 52   | 0 0  | 53   |
| Monogrimus gradus ab ascendente.          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1 45                                      | 0 0  | 45   | 0 0  | 46   | 0 0  | 47   | 0 0  | 49   | 0 0  | 51   | 0 0  | 52   | 0 0  | 53   |
| 1 30                                      | 0 20 | 42   | 0 20 | 43   | 0 20 | 44   | 0 20 | 46   | 0 19 | 48   | 0 18 | 50   | 0 18 | 51   |
| 1 15                                      | 0 50 | 36   | 0 51 | 37   | 0 50 | 38   | 0 49 | 40   | 0 48 | 41   | 0 47 | 42   | 0 46 | 43   |
| 1 0                                       | 1 16 | 30   | 1 16 | 31   | 1 15 | 32   | 1 14 | 34   | 1 12 | 35   | 1 11 | 36   | 1 10 | 37   |
| 2 0                                       | 1 31 | 27   | 1 32 | 27   | 1 31 | 28   | 1 29 | 29   | 1 27 | 31   | 1 26 | 32   | 1 25 | 33   |
| 3 0                                       | 1 43 | 23   | 1 44 | 23   | 1 43 | 24   | 1 42 | 25   | 1 40 | 26   | 1 38 | 27   | 1 37 | 28   |
| 4 0                                       | 1 47 | 22   | 1 48 | 22   | 1 47 | 23   | 1 46 | 24   | 1 44 | 25   | 1 42 | 26   | 1 41 | 27   |
| 5 0                                       | 1 41 | 22   | 1 42 | 23   | 1 42 | 23   | 1 41 | 24   | 1 39 | 25   | 1 37 | 26   | 1 36 | 27   |

# Tabula distantie punctionis visibilis a vera Et clima septimū.

| C                                      |         | A       |          | N         |          | C       |          | E         |          | R       |          |
|--|---------|---------|----------|-----------|----------|---------|----------|-----------|----------|---------|----------|
| 0                                      |         | 1       |          | 2         |          | 3       |          | 4         |          | 5       |          |
| Argumenti hunc Signa.                  |         |         |          |           |          |         |          |           |          |         |          |
| 11                                     |         | 10      |          | 9         |          | 8       |          | 7         |          | 6       |          |
| Distantia punctionis a vera a meridie. | lat. m. | motus   |          | Distantia |          | motus   |          | Distantia |          | motus   |          |
|  |         | lat. m. | long. m. | lat. m.   | long. m. | lat. m. | long. m. | lat. m.   | long. m. | lat. m. | long. m. |
| 0                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 1                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 2                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 3                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 4                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 5                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 6                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 7                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 8                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 9                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 10                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 11                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 12                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 13                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 14                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 15                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 16                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 17                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 18                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 19                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 20                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 21                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 22                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 23                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 24                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 25                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 26                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 27                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 28                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 29                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 30                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 31                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 32                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 33                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 34                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 35                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 36                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 37                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 38                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 39                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 40                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 41                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 42                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 43                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 44                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 45                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 46                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 47                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 48                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 49                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 50                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 51                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 52                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 53                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 54                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 55                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 56                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 57                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 58                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 59                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 60                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 61                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 62                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 63                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 64                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 65                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 66                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 67                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 68                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 69                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 70                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 71                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 72                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 73                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 74                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 75                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 76                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 77                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 78                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 79                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 80                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 81                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 82                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 83                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 84                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 85                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 86                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 87                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 88                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 89                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 90                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 91                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 92                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 93                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 94                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 95                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 96                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 97                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 98                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 99                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 100                                    | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |

Monagnum gradus ab Ascendente.

| C                                      |         | A       |          | N         |          | C       |          | E         |          | R       |          |
|--|---------|---------|----------|-----------|----------|---------|----------|-----------|----------|---------|----------|
| 0                                      |         | 1       |          | 2         |          | 3       |          | 4         |          | 5       |          |
| Argumenti hunc Signa.                  |         |         |          |           |          |         |          |           |          |         |          |
| 11                                     |         | 10      |          | 9         |          | 8       |          | 7         |          | 6       |          |
| Distantia punctionis a vera a meridie. | lat. m. | motus   |          | Distantia |          | motus   |          | Distantia |          | motus   |          |
|  |         | lat. m. | long. m. | lat. m.   | long. m. | lat. m. | long. m. | lat. m.   | long. m. | lat. m. | long. m. |
| 0                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 1                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 2                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 3                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 4                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 5                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 6                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 7                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 8                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 9                                      | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 10                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 11                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 12                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 13                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 14                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 15                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 16                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 17                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 18                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 19                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 20                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 21                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 22                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 23                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 24                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 25                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 26                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 27                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 28                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 29                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 30                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 31                                     | 0       | 0       | 0        | 0         | 0        | 0       | 0        | 0         | 0        | 0       | 0        |
| 32                                     | 0       | 0       | 0        | 0         |          |         |          |           |          |         |          |

Tabula distantiæ coniunctionis visibilis vera Ad clima septimū.

[illegible]

|                                |        | 1    |   | 2       |       | 3    |       | 4       |       | 5    |       | 6       |       | 7    |       | 8       |       | 9    |       | 10      |       |      |
|--------------------------------|--------|------|---|---------|-------|------|-------|---------|-------|------|-------|---------|-------|------|-------|---------|-------|------|-------|---------|-------|------|
|                                |        | Rep. |   | Medius. |       | Rep. |       | Medius. |       | Rep. |       | Medius. |       | Rep. |       | Medius. |       | Rep. |       | Medius. |       |      |
|                                |        | B    | M | B       | M     | B    | M     | B       | M     | B    | M     | B       | M     | B    | M     | B       | M     | B    | M     | B       | M     |      |
| mes                            | meridi | 6    | 0 | 1 42    |       |      |       |         |       |      |       |         |       |      |       |         |       |      |       |         |       |      |
|                                |        | 5    | 0 | 1 44    | 20 52 | 1 44 | 20 51 | 1 43    | 21 51 | 1 42 | 22 55 | 1 40    | 23 58 | 1 38 | 24 56 | 1 37    | 25 56 |      |       |         |       |      |
|                                |        | 4    | 0 | 1 45    | 21 52 | 1 45 | 21 52 | 1 44    | 22 54 | 1 43 | 23 56 | 1 41    | 24 58 | 1 39 | 25 57 | 1 37    | 26 58 |      |       |         |       |      |
|                                |        | 3    | 0 | 1 46    | 22 56 | 1 46 | 22 56 | 1 45    | 23 52 | 1 44 | 24 54 | 1 42    | 25 56 | 1 40 | 26 57 | 1 38    | 27 55 |      |       |         |       |      |
|                                |        | 2    | 0 | 1 48    | 24 44 | 1 48 | 24 44 | 1 48    | 25 44 | 1 47 | 26 47 | 1 45    | 27 49 | 1 43 | 28 50 | 1 41    | 29 50 |      |       |         |       |      |
| Dieridies                      |        | 1    | 0 | 1 12    | 26 36 | 1 12 | 26 36 | 1 11    | 27 37 | 1 10 | 28 35 | 1 8     | 29 39 | 1 7  | 30 40 | 1 6     | 31 41 |      |       |         |       |      |
|                                |        | 1    | 0 | 0 47    | 29 23 | 0 47 | 29 23 | 0 46    | 30 24 | 0 45 | 31 22 | 0 43    | 32 26 | 0 44 | 33 12 | 0 43    | 34 26 |      |       |         |       |      |
|                                |        | 2    | 0 | 0 22    | 34 11 | 0 22 | 35 11 | 0 22    | 36 11 | 0 21 | 37 11 | 0 21    | 38 12 | 0 20 | 39 12 | 0 20    | 40 12 |      |       |         |       |      |
| Mouadqum gradus ab ascendente. |        |      |   |         |       |      |       |         |       |      |       |         |       |      |       |         |       |      |       |         |       |      |
| meridi                         |        | 2    | 0 | 0 18    | 0     | 0 39 | 0     | 0 40    | 0     | 0 42 | 0     | 0 44    | 0     | 0 45 | 0     | 0 46    | 0     | 0 47 | 0     | 0 48    | 0     | 0 49 |
|                                |        | 3    | 0 | 0 16    | 41 8  | 0 16 | 41 8  | 0 16    | 42 8  | 0 16 | 42 9  | 0 15    | 42 9  | 0 15 | 43 9  | 0 15    | 44 9  | 0 15 | 45 9  | 0 15    | 46 9  |      |
|                                |        | 4    | 0 | 0 27    | 46 13 | 0 27 | 47 13 | 0 27    | 48 14 | 0 26 | 51 14 | 0 26    | 51 15 | 0 25 | 55 15 | 0 25    | 56 15 | 0 25 | 57 15 | 0 25    | 58 15 |      |
|                                |        | 5    | 0 | 0 34    | 49 17 | 0 34 | 49 17 | 0 33    | 51 17 | 0 33 | 51 18 | 0 32    | 55 18 | 0 31 | 57 19 | 0 31    | 58 19 | 0 31 | 59 19 | 0 31    | 60 19 |      |
|                                |        | 6    | 0 | 0 35    | 49 17 | 0 35 | 49 17 | 0 35    | 51 18 | 0 35 | 51 19 | 0 34    | 55 19 | 0 33 | 57 20 | 0 33    | 58 20 | 0 33 | 59 20 | 0 33    | 60 20 |      |

# Tabula distancie punctionis visibilis vera ad clima septimus.

| SCOR                          |                    |       |                    |       |                    |       |                    |       |                    | BY    |                    | VS    |                    |       |                    |       |                    |       |   |   |
|-------------------------------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|---|---|
| 1                             |                    |       |                    |       |                    |       |                    |       |                    | 2     |                    | 3     |                    | 4     |                    | 5     |                    | 6     |   |   |
| Argumenti Lune Signa.         |                    |       |                    |       |                    |       |                    |       |                    | 11    |                    | 10    |                    | 9     |                    | 8     |                    | 7     |   |   |
| Distancia<br>verae a meridie. | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       |   |   |
|                               | lat.               | long. | lat.               | long. | lat.               | long. | lat.               | long. | lat.               | long. | lat.               | long. | lat.               | long. | lat.               | long. | lat.               | long. |   |   |
| g                             | m                  | m     | g                  | m     | m                  | g     | m                  | m     | g                  | m     | m                  | g     | m                  | m     | g                  | m     | m                  | g     | m | m |
| 5 0                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 1                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 2                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 3                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 4                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 5                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 6                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 7                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 8                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 9                           | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 10                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 11                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 12                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 13                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 14                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 15                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 16                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 17                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 18                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 19                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 20                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 21                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 22                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 23                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 24                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 25                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 26                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 27                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 28                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 29                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 30                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 31                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 32                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 33                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 34                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 35                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 36                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 37                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 38                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 39                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 40                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 41                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 42                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 43                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 44                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 45                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 46                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 47                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 48                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 49                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 50                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 51                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 52                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 53                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 54                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 55                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 56                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 57                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 58                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 59                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |
| 5 60                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0 | 0 |

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| Argumenti Lune Signa.         |                    |       |                    |       |                    |       |                    |       |                    |       |
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| Distancia<br>verae a meridie. | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       | motus<br>Diurnitas |       |
|                               | lat.               | long. | lat.               | long. | lat.               | long. | lat.               | long. | lat.               | long. |
| g                             | m                  | m     | g                  | m     | m                  | m     | g                  | m     | m                  | m     |
| 4 20                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 21                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 22                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 23                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 24                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 25                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 26                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 27                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 28                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 29                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 30                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 31                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 32                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 33                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 34                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 35                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 36                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 37                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 38                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 39                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 40                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 41                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 42                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 43                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 44                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 45                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 46                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 47                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 48                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 49                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 50                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 51                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 52                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 53                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 54                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 55                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 56                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 57                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 58                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 59                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |
| 4 60                          | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     | 0                  | 0     |

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| Argumenti Lune Signa. |  |    |  |     |  |     |  |     |  |
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**Tabula distantie punctionis visibilis vera Ad clima septimū.**

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|  |  | 7       |  | 8       |  | 9       |  | 10      |  | 11      |  |         |  |
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|  |  | Diurnal |  | Diurnal |  | Diurnal |  | Diurnal |  | Diurnal |  | Diurnal |  |
|  |  | lat     |  | lat     |  | lat     |  | lat     |  | lat     |  | lat     |  |
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|            |   | D     |    |        | F     |   |        | S  |       |   | C      |    |       | E |        |    | S     |   |        |    |    |   |    |
|------------|---|-------|----|--------|-------|---|--------|----|-------|---|--------|----|-------|---|--------|----|-------|---|--------|----|----|---|----|
|            |   | Temp. |    | radia. | Temp. |   | radia. | U  | Temp. |   | radia. | U  | Temp. |   | radia. | U  | Temp. |   | radia. | U  |    |   |    |
|            |   | b     | m  | m      | b     | m | m      | b  | m     | m | b      | m  | m     | b | m      | m  | b     | m | m      | b  | m  | m |    |
| Diurnal    | 6 | 0     | 35 | 48     | 17    | 0 | 35     | 49 | 17    | 0 | 35     | 51 | 18    | 0 | 35     | 51 | 19    | 0 | 35     | 52 | 20 | 0 | 35 |
| Collected  | 5 | 0     | 34 | 48     | 17    | 0 | 34     | 49 | 17    | 0 | 34     | 51 | 18    | 0 | 34     | 55 | 18    | 0 | 34     | 57 | 20 | 0 | 34 |
| at the     | 5 | 0     | 27 | 44     | 13    | 0 | 27     | 47 | 13    | 0 | 27     | 49 | 14    | 0 | 28     | 51 | 15    | 0 | 25     | 55 | 15 | 0 | 31 |
| atmosphere | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            | 1 | 0     | 16 | 41     | 8     | 0 | 16     | 41 | 8     | 0 | 16     | 45 | 9     | 0 | 15     | 49 | 9     | 0 | 15     | 50 | 9  | 0 | 15 |
|            |   |       |    |        |       |   |        |    |       |   |        |    |       |   |        |    |       |   |        |    |    |   |    |



Tabula distantiæ coniunctionis visibilis vera. Eid. clunia septimū.

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Monoclimus gradus ascendente.

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Monacclimus gradus ab ascendente.

| Journal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 |
|---------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---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# Tabula Latitudinis Lune In Eclipsibus.

| Sig. 0<br>Sept.<br>trional.<br>Sig. 6<br>Deri.<br>dional.        |   |    |    |    | Sig. 0<br>Sept.<br>trional.<br>Sig. 6<br>Deri.<br>dional.        |    |    |    |    | Sig. 0<br>Sept.<br>trional.<br>Sig. 6<br>Deri.<br>dional.        |    |    |    |  |
|--|---|----|----|----|--|----|----|----|----|--|----|----|----|--|
| Za<br>u  |   |    |    |    | Za<br>u  |    |    |    |    | Za<br>u  |    |    |    |  |
| m<br>do  |   |    |    |    | m<br>do  |    |    |    |    | m<br>do  |    |    |    |  |
| h  | m | h  | m  | h  | m  | h  | m  | h  | m  | h  | m  | h  | m  |  |
| 0  | 0 | 0  | 0  | 0  | 10   | 0  | 37 | 23 | 50 | 23   | 14 | 14 | 1  |  |
| 10   | 0 | 0  | 52 | 50 | 20   | 0  | 38 | 15 | 40 | 20   | 14 | 20 | 1  |  |
| 20   | 0 | 1  | 44 | 40 | 30   | 0  | 39 | 7  | 30 | 30   | 14 | 26 | 1  |  |
| 30   | 0 | 2  | 36 | 30 | 40   | 0  | 39 | 59 | 20 | 40   | 14 | 32 | 1  |  |
| 40   | 0 | 3  | 29 | 20 | 50   | 0  | 40 | 51 | 10 | 50   | 14 | 38 | 1  |  |
| 50   | 0 | 4  | 21 | 10 | 0  | 0  | 41 | 42 | 0  | 15   | 0  | 1  | 17 |  |
| 1  | 0 | 5  | 13 | 0  | 29   | 8  | 0  | 42 | 34 | 50   | 20 | 1  | 18 |  |
| 10   | 0 | 6  | 5  | 50 | 20   | 0  | 42 | 25 | 40 | 30   | 1  | 19 | 1  |  |
| 20   | 0 | 6  | 58 | 40 | 30   | 0  | 43 | 17 | 30 | 40   | 1  | 20 | 1  |  |
| 30   | 0 | 7  | 50 | 30 | 40   | 0  | 43 | 9  | 20 | 50   | 1  | 21 | 1  |  |
| 40   | 0 | 8  | 42 | 20 | 50   | 0  | 44 | 0  | 10 | 0  | 1  | 22 | 1  |  |
| 50   | 0 | 9  | 35 | 10 | 0  | 9  | 0  | 45 | 52 | 0  | 21 | 1  | 23 |  |
| 1  | 0 | 10 | 27 | 0  | 28   | 10 | 0  | 46 | 44 | 50   | 20 | 1  | 24 |  |
| 10   | 0 | 11 | 19 | 50 | 20   | 0  | 47 | 35 | 40 | 30   | 0  | 1  | 25 |  |
| 20   | 0 | 12 | 11 | 40 | 30   | 0  | 48 | 27 | 30 | 40   | 0  | 1  | 26 |  |
| 30   | 0 | 13 | 3  | 30 | 40   | 0  | 49 | 18 | 20 | 50   | 0  | 1  | 27 |  |
| 40   | 0 | 13 | 54 | 20 | 50   | 0  | 50 | 10 | 10 | 0  | 0  | 1  | 28 |  |
| 50   | 0 | 14 | 48 | 10 | 0  | 10 | 0  | 51 | 1  | 0  | 20 | 0  | 1  |  |
| 1  | 0 | 15 | 40 | 0  | 27   | 10 | 0  | 52 | 1  | 0  | 30 | 0  | 1  |  |
| 10   | 0 | 16 | 32 | 50 | 20   | 0  | 52 | 52 | 50 | 20   | 0  | 1  | 29 |  |
| 20   | 0 | 17 | 24 | 40 | 30   | 0  | 53 | 44 | 40 | 30   | 0  | 1  | 30 |  |
| 30   | 0 | 18 | 16 | 30 | 40   | 0  | 54 | 35 | 30 | 40   | 0  | 1  | 31 |  |
| 40   | 0 | 19 | 8  | 20 | 50   | 0  | 55 | 27 | 20 | 50   | 0  | 1  | 32 |  |
| 50   | 0 | 20 | 1  | 10 | 0  | 11 | 0  | 56 | 18 | 10   | 0  | 1  | 33 |  |
| 1  | 0 | 20 | 51 | 0  | 26   | 11 | 0  | 57 | 9  | 0  | 19 | 0  | 1  |  |
| 10   | 0 | 21 | 44 | 50 | 20   | 0  | 58 | 1  | 50 | 20   | 0  | 1  | 34 |  |
| 20   | 0 | 22 | 38 | 40 | 30   | 0  | 59 | 52 | 40 | 30   | 0  | 1  | 35 |  |
| 30   | 0 | 23 | 30 | 30 | 40   | 0  | 60 | 43 | 30 | 40   | 0  | 1  | 36 |  |
| 40   | 0 | 24 | 23 | 20 | 50   | 0  | 61 | 34 | 20 | 50   | 0  | 1  | 37 |  |
| 50   | 0 | 25 | 15 | 10 | 0  | 12 | 0  | 1  | 25 | 18   | 0  | 1  | 38 |  |
| 1  | 0 | 26 | 7  | 0  | 25   | 12 | 0  | 1  | 2  | 16   | 0  | 1  | 39 |  |
| 10   | 0 | 26 | 59 | 50 | 20   | 10 | 0  | 1  | 3  | 8  | 50 | 20 | 0  |  |
| 20   | 0 | 27 | 51 | 40 | 30   | 10 | 0  | 1  | 4  | 50   | 40 | 30 | 0  |  |
| 30   | 0 | 28 | 43 | 30 | 40   | 10 | 0  | 1  | 5  | 41   | 30 | 40 | 0  |  |
| 40   | 0 | 29 | 35 | 20 | 50   | 10 | 0  | 1  | 6  | 32   | 20 | 50 | 0  |  |
| 50   | 0 | 30 | 27 | 10 | 0  | 13 | 0  | 1  | 7  | 23   | 10 | 0  | 1  |  |
| 1  | 0 | 31 | 19 | 0  | 24   | 13 | 0  | 1  | 8  | 15   | 0  | 1  | 41 |  |
| 10   | 0 | 32 | 11 | 50 | 20   | 10 | 0  | 1  | 9  | 6  | 50 | 20 | 0  |  |
| 20   | 0 | 33 | 3  | 40 | 30   | 10 | 0  | 1  | 9  | 57   | 40 | 30 | 0  |  |
| 30   | 0 | 33 | 55 | 30 | 40   | 10 | 0  | 1  | 10 | 48   | 20 | 50 | 0  |  |
| 40   | 0 | 34 | 47 | 20 | 50   | 10 | 0  | 1  | 11 | 39   | 10 | 0  | 1  |  |
| 50   | 0 | 35 | 39 | 10 | 0  | 14 | 0  | 1  | 12 | 30   | 0  | 1  | 42 |  |
| 1  | 0 | 36 | 31 | 0  | 21   | 14 | 0  | 1  | 12 | 21   | 0  | 1  | 43 |  |
| Za<br>u  |   |    |    |    | Za<br>u  |    |    |    |    | Za<br>u  |    |    |    |  |
| m<br>do  |   |    |    |    | m<br>do  |    |    |    |    | m<br>do  |    |    |    |  |
| Deri.<br>dional.<br>11<br>Sig.<br>Sept.<br>trional.<br>5<br>Sig. |   |    |    |    | Deri.<br>dional.<br>11<br>Sig.<br>Sept.<br>trional.<br>5<br>Sig. |    |    |    |    | Deri.<br>dional.<br>11<br>Sig.<br>Sept.<br>trional.<br>5<br>Sig. |    |    |    |  |

Tabula Eclypsis Sol existet in Auge Ecetrici.

Prima.

|   |                       |    |   |   |   |
|---|-----------------------|----|---|---|---|
|   | 1                     | 2  | 3 | 4 | 5 |
| 0 | Argumenti Lune Signa. |    |   |   |   |
|   | 11                    | 10 | 9 | 8 | 7 |

[illegible]

Tabula Eclipsis Sol existēs in Lōgitudine mediā Ecētrici.

**Secunda.**

[illegible]

Tabula Eclypsis Sol existētis in opposito Elugis ecētrici.

**Tertía.**

|                       |    |   |   |   |
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| 1                     | 2  | 3 | 4 | 5 |
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Prima.

9

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**O** Argumenti Lune Signa.

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| Z<br>afinido<br>lanc<br>vita. | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | 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Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | Pa<br>cia<br>edv<br>pri<br>ca. |  |  | Rep<br>cafus |  |  | Doris<br>meda. |  |  | Doris<br>lenc. |  |  | 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# Tabula Eclipsis Lune Sole existente

Prima.

4 5 6  
Argumenti Lune Signa.

8 7 11

| Zeitende<br>lune<br>vifa. | Quarta<br>eclipsi-<br>tica. | Repra-<br>sentatio | Mediana | Mediana<br>Lunae | Quarta<br>eclipsi-<br>tica. | Repra-<br>sentatio | Mediana | Mediana<br>Lunae | Quarta<br>eclipsi-<br>tica. | Repra-<br>sentatio | Mediana | Mediana<br>Lunae |
|---------------------------|-----------------------------|--------------------|---------|------------------|-----------------------------|--------------------|---------|------------------|-----------------------------|--------------------|---------|------------------|
| m                         | p m                         | b m                | m       | m                | p m                         | b m                | m       | m                | p m                         | b m                | m       | m                |
| 0                         | 21 36                       | 1 3                | 51      | 66               | 21 36                       | 1 3                | 51      | 66               | 21 36                       | 1 3                | 51      | 66               |
| 1                         | 21 35                       | 1 3                | 51      | 66               | 21 35                       | 1 3                | 51      | 66               | 21 35                       | 1 3                | 51      | 66               |
| 2                         | 20 56                       | 1 3                | 51      | 66               | 20 56                       | 1 3                | 51      | 66               | 20 56                       | 1 3                | 51      | 66               |
| 3                         | 20 32                       | 1 3                | 50      | 65               | 20 32                       | 1 3                | 50      | 65               | 20 32                       | 1 3                | 50      | 65               |
| 4                         | 20 11                       | 1 3                | 50      | 65               | 20 11                       | 1 3                | 50      | 65               | 20 11                       | 1 3                | 50      | 65               |
| 5                         | 19 50                       | 1 3                | 50      | 65               | 19 50                       | 1 3                | 50      | 65               | 19 50                       | 1 3                | 50      | 65               |
| 6                         | 19 29                       | 1 4                | 49      | 65               | 19 29                       | 1 4                | 49      | 65               | 19 29                       | 1 4                | 49      | 65               |
| 7                         | 19 7                        | 1 4                | 49      | 65               | 19 7                        | 1 4                | 49      | 65               | 19 7                        | 1 4                | 49      | 65               |
| 8                         | 18 46                       | 1 4                | 48      | 65               | 18 46                       | 1 4                | 48      | 65               | 18 46                       | 1 4                | 48      | 65               |
| 9                         | 18 25                       | 1 4                | 48      | 65               | 18 25                       | 1 4                | 48      | 65               | 18 25                       | 1 4                | 48      | 65               |
| 10                        | 18 4                        | 1 5                | 47      | 64               | 18 4                        | 1 5                | 47      | 64               | 18 4                        | 1 5                | 47      | 64               |
| 11                        | 17 42                       | 1 5                | 46      | 64               | 17 42                       | 1 5                | 46      | 64               | 17 42                       | 1 5                | 46      | 64               |
| 12                        | 17 21                       | 1 6                | 45      | 64               | 17 21                       | 1 6                | 45      | 64               | 17 21                       | 1 6                | 45      | 64               |
| 13                        | 17 0                        | 1 7                | 44      | 64               | 17 0                        | 1 7                | 44      | 64               | 17 0                        | 1 7                | 44      | 64               |
| 14                        | 16 39                       | 1 7                | 43      | 63               | 16 39                       | 1 7                | 43      | 63               | 16 39                       | 1 7                | 43      | 63               |
| 15                        | 16 17                       | 1 8                | 42      | 63               | 16 17                       | 1 8                | 42      | 63               | 16 17                       | 1 8                | 42      | 63               |
| 16                        | 15 56                       | 1 9                | 41      | 63               | 15 56                       | 1 9                | 41      | 63               | 15 56                       | 1 9                | 41      | 63               |
| 17                        | 15 35                       | 1 10               | 40      | 61               | 15 35                       | 1 10               | 40      | 61               | 15 35                       | 1 10               | 40      | 61               |
| 18                        | 15 13                       | 1 11               | 38      | 61               | 15 13                       | 1 11               | 38      | 61               | 15 13                       | 1 11               | 38      | 61               |
| 19                        | 14 52                       | 1 12               | 36      | 61               | 14 52                       | 1 12               | 36      | 61               | 14 52                       | 1 12               | 36      | 61               |
| 20                        | 14 31                       | 1 14               | 34      | 62               | 14 31                       | 1 14               | 34      | 62               | 14 31                       | 1 14               | 34      | 62               |
| 21                        | 14 10                       | 1 16               | 32      | 62               | 14 10                       | 1 16               | 32      | 62               | 14 10                       | 1 16               | 32      | 62               |
| 22                        | 13 48                       | 1 18               | 29      | 62               | 13 48                       | 1 18               | 29      | 62               | 13 48                       | 1 18               | 29      | 62               |
| 23                        | 13 27                       | 1 20               | 26      | 61               | 13 27                       | 1 20               | 26      | 61               | 13 27                       | 1 20               | 26      | 61               |
| 24                        | 13 6                        | 1 22               | 23      | 61               | 13 6                        | 1 22               | 23      | 61               | 13 6                        | 1 22               | 23      | 61               |
| 25                        | 12 45                       | 1 25               | 19      | 60               | 12 45                       | 1 25               | 19      | 60               | 12 45                       | 1 25               | 19      | 60               |
| 26                        | 12 23                       | 1 29               | 14      | 59               | 12 23                       | 1 29               | 14      | 59               | 12 23                       | 1 29               | 14      | 59               |
| 27                        | 12 2                        | 1 35               | 4       | 59               | 12 2                        | 1 35               | 4       | 59               | 12 2                        | 1 35               | 4       | 59               |
| 28                        | 11 41                       | 1 41               | 0       | 58               | 11 41                       | 1 41               | 0       | 58               | 11 41                       | 1 41               | 0       | 58               |
| 29                        | 11 20                       | 1 40               | 0       | 58               | 11 20                       | 1 40               | 0       | 58               | 11 20                       | 1 40               | 0       | 58               |
| 30                        | 10 58                       | 1 39               | 0       | 57               | 10 58                       | 1 39               | 0       | 57               | 10 58                       | 1 39               | 0       | 57               |
| 31                        | 10 37                       | 1 38               | 0       | 57               | 10 37                       | 1 38               | 0       | 57               | 10 37                       | 1 38               | 0       | 57               |
| 32                        | 10 16                       | 1 37               | 0       | 56               | 10 16                       | 1 37               | 0       | 56               | 10 16                       | 1 37               | 0       | 56               |
| 33                        | 9 55                        | 1 36               | 0       | 55               | 9 55                        | 1 36               | 0       | 55               | 9 55                        | 1 36               | 0       | 55               |

In Auge Eccentrici sui.

Prima. 111522

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### Argumenti Iunc Significandi

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11

[illegible]

## Secundum

1 2 3

**O** Argumenti Iune Signa.

11 7 10 2 9

[illegible]

In Longitudine ABedia Eccentrici fut.

**Secunda.**

1 2 3  
O Argumenti Iune Signa. 1102. 1103.

11 7 10 8 9

[illegible]

Tabula Eclypsis Lune Sole existente

## Secunda.

34

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Argumenti hunc Signa. 63

98

of 7

11

[illegible]



Secunda.

Argumenti Lune Signa.

[illegible]

**Tertia.**

|   |                       |    |   |
|---|-----------------------|----|---|
|   | 1                     | 2  | 3 |
| 0 | Argumenti hunc Signa. |    |   |
|   | 11                    | 10 | 9 |

| Xenopus<br>lance-<br>vitta. | P. ca-<br>ecy-<br>pri-<br>ca. | Xenopus lance-<br>vitta. |       |    | Xenopus lance-<br>vitta. |       |    | Xenopus lance-<br>vitta. |       |      | Xenopus lance-<br>vitta. |       |       | Xenopus lance-<br>vitta. |       |    | Xenopus lance-<br>vitta. |       |    | Xenopus lance-<br>vitta. |       |    |
|-----------------------------|-------------------------------|--------------------------|-------|----|--------------------------|-------|----|--------------------------|-------|------|--------------------------|-------|-------|--------------------------|-------|----|--------------------------|-------|----|--------------------------|-------|----|
|                             |                               | p. m.                    | b. m. | m. | p. m.                    | b. m. | m. | p. m.                    | b. m. | m.   | p. m.                    | b. m. | m.    | p. m.                    | b. m. | m. | p. m.                    | b. m. | m. | p. m.                    | b. m. | m. |
| 0                           | 21 13                         | 1 5                      | 49    | 56 | 21 13                    | 1 4   | 49 | 56                       | 21 14 | 1 4  | 49                       | 56    | 21 14 | 1 4                      | 49    | 56 | 21 15                    | 1 4   | 49 | 61                       | 49    | 61 |
| 1                           | 20 48                         | 1 5                      | 49    | 56 | 20 48                    | 1 4   | 49 | 56                       | 20 50 | 1 4  | 49                       | 56    | 20 50 | 1 4                      | 49    | 56 | 20 51                    | 1 4   | 49 | 61                       | 49    | 61 |
| 2                           | 20 21                         | 1 5                      | 49    | 56 | 20 21                    | 1 4   | 49 | 56                       | 20 26 | 1 4  | 49                       | 56    | 20 26 | 1 4                      | 49    | 56 | 20 30                    | 1 5   | 49 | 61                       | 49    | 61 |
| 3                           | 19 59                         | 1 5                      | 49    | 56 | 19 59                    | 1 4   | 49 | 56                       | 20 1  | 1 4  | 49                       | 56    | 20 1  | 1 4                      | 49    | 56 | 20 3                     | 1 5   | 49 | 61                       | 49    | 61 |
| 4                           | 19 34                         | 1 5                      | 48    | 56 | 19 34                    | 1 5   | 48 | 56                       | 19 39 | 1 5  | 48                       | 56    | 19 39 | 1 5                      | 48    | 56 | 19 45                    | 1 5   | 48 | 61                       | 49    | 61 |
| 5                           | 19 9                          | 1 5                      | 48    | 56 | 19 9                     | 1 5   | 48 | 56                       | 19 15 | 1 5  | 48                       | 56    | 19 15 | 1 5                      | 48    | 56 | 19 21                    | 1 5   | 48 | 61                       | 49    | 61 |
| 6                           | 18 44                         | 1 6                      | 47    | 56 | 18 45                    | 1 5   | 48 | 56                       | 18 51 | 1 5  | 47                       | 56    | 18 51 | 1 5                      | 47    | 56 | 19 0                     | 1 5   | 47 | 61                       | 49    | 61 |
| 7                           | 18 19                         | 1 6                      | 47    | 56 | 18 21                    | 1 6   | 47 | 56                       | 18 28 | 1 6  | 47                       | 56    | 18 28 | 1 6                      | 47    | 56 | 18 38                    | 1 5   | 47 | 61                       | 49    | 61 |
| 8                           | 17 54                         | 1 6                      | 46    | 55 | 17 56                    | 1 6   | 46 | 56                       | 18 4  | 1 6  | 46                       | 56    | 18 4  | 1 6                      | 46    | 56 | 18 15                    | 1 6   | 46 | 61                       | 49    | 61 |
| 9                           | 17 30                         | 1 7                      | 45    | 55 | 17 32                    | 1 7   | 45 | 56                       | 17 41 | 1 7  | 45                       | 56    | 17 41 | 1 7                      | 45    | 56 | 17 51                    | 1 6   | 46 | 61                       | 49    | 61 |
| 10                          | 17 5                          | 1 7                      | 44    | 55 | 17 7                     | 1 7   | 44 | 55                       | 17 17 | 1 7  | 44                       | 55    | 17 17 | 1 7                      | 44    | 55 | 17 30                    | 1 6   | 45 | 60                       | 49    | 60 |
| 11                          | 16 40                         | 1 8                      | 43    | 55 | 16 43                    | 1 8   | 43 | 55                       | 16 51 | 1 8  | 43                       | 55    | 16 51 | 1 8                      | 43    | 55 | 17 8                     | 1 7   | 44 | 60                       | 49    | 60 |
| 12                          | 16 15                         | 1 9                      | 42    | 55 | 16 18                    | 1 8   | 42 | 55                       | 16 30 | 1 8  | 42                       | 55    | 16 30 | 1 8                      | 42    | 55 | 16 45                    | 1 7   | 43 | 60                       | 49    | 60 |
| 13                          | 15 50                         | 1 10                     | 41    | 55 | 15 54                    | 1 9   | 41 | 55                       | 16 6  | 1 9  | 41                       | 55    | 16 6  | 1 9                      | 41    | 55 | 16 23                    | 1 7   | 42 | 60                       | 49    | 60 |
| 14                          | 15 25                         | 1 11                     | 39    | 54 | 15 29                    | 1 10  | 39 | 54                       | 15 42 | 1 10 | 40                       | 57    | 15 42 | 1 10                     | 40    | 57 | 16 0                     | 1 9   | 41 | 60                       | 49    | 60 |
| 15                          | 15 1                          | 1 12                     | 37    | 54 | 15 5                     | 1 12  | 37 | 54                       | 15 19 | 1 11 | 38                       | 56    | 15 19 | 1 11                     | 38    | 56 | 15 38                    | 1 10  | 39 | 59                       | 49    | 59 |
| 16                          | 14 36                         | 1 14                     | 35    | 54 | 14 40                    | 1 13  | 35 | 54                       | 14 55 | 1 12 | 36                       | 56    | 14 55 | 1 12                     | 36    | 56 | 15 15                    | 1 11  | 37 | 59                       | 49    | 59 |
| 17                          | 14 11                         | 1 16                     | 32    | 53 | 14 16                    | 1 15  | 32 | 54                       | 14 31 | 1 14 | 34                       | 56    | 14 31 | 1 14                     | 34    | 56 | 14 51                    | 1 13  | 35 | 59                       | 49    | 59 |
| 18                          | 13 46                         | 1 18                     | 29    | 53 | 13 51                    | 1 17  | 29 | 54                       | 14 8  | 1 15 | 32                       | 55    | 14 8  | 1 15                     | 32    | 55 | 14 30                    | 1 14  | 33 | 58                       | 49    | 58 |
| 19                          | 13 21                         | 1 20                     | 26    | 53 | 13 27                    | 1 19  | 26 | 54                       | 13 44 | 1 17 | 29                       | 55    | 13 44 | 1 17                     | 29    | 55 | 14 8                     | 1 16  | 31 | 58                       | 49    | 58 |
| 20                          |                               |                          |       |    |                          |       |    |                          |       |      |                          |       |       |                          |       |    |                          |       |    |                          |       |    |

# In opposito augis Eccentrici sui.

## Tertia.

1 2 3  
 O Argumenti Lune Signa.  
 11 10 9

| Latitudo<br>lune<br>via. | Distantia<br>polaris. |      | Repositio<br>causae. |    | Distantia<br>mediana. |      | Distantia<br>lunae. |    | Distantia<br>polaris. |      | Repositio<br>causae. |    | Distantia<br>mediana. |      | Distantia<br>lunae. |    | Repositio<br>causae. |      | Distantia<br>mediana. |    | Distantia<br>lunae. |  |
|--------------------------|-----------------------|------|----------------------|----|-----------------------|------|---------------------|----|-----------------------|------|----------------------|----|-----------------------|------|---------------------|----|----------------------|------|-----------------------|----|---------------------|--|
|                          | p m.                  | b m. | m.                   | m. | p m.                  | b m. | m.                  | m. | p m.                  | b m. | m.                   | m. | p m.                  | b m. | m.                  | m. | p m.                 | b m. | m.                    | m. |                     |  |
| 33                       | 7 34                  | 1 27 | 0                    | 41 | 7 44                  | 1 28 | 0                   | 44 | 8 12                  | 1 30 | 0                    | 47 | 8 52                  | 1 31 | 0                   | 51 |                      |      |                       |    |                     |  |
| 34                       | 7 9                   | 1 25 | 0                    | 41 | 7 19                  | 1 26 | 0                   | 43 | 7 49                  | 1 28 | 0                    | 46 | 8 30                  | 1 31 | 0                   | 50 |                      |      |                       |    |                     |  |
| 35                       | 6 44                  | 1 23 | 0                    | 41 | 6 55                  | 1 24 | 0                   | 42 | 7 25                  | 1 26 | 0                    | 45 | 8 7                   | 1 29 | 0                   | 49 |                      |      |                       |    |                     |  |
| 36                       | 6 19                  | 1 21 | 0                    | 40 | 6 30                  | 1 22 | 0                   | 41 | 7 1                   | 1 24 | 0                    | 43 | 7 45                  | 1 28 | 0                   | 48 |                      |      |                       |    |                     |  |
| 37                       | 5 54                  | 1 19 | 0                    | 39 | 6 6                   | 1 20 | 0                   | 40 | 6 48                  | 1 22 | 0                    | 42 | 7 22                  | 1 24 | 0                   | 47 |                      |      |                       |    |                     |  |
| 38                       | 5 30                  | 1 17 | 0                    | 38 | 5 41                  | 1 18 | 0                   | 39 | 6 14                  | 1 20 | 0                    | 41 | 7 0                   | 1 24 | 0                   | 46 |                      |      |                       |    |                     |  |
| 39                       | 5 5                   | 1 14 | 0                    | 36 | 5 17                  | 1 15 | 0                   | 38 | 5 50                  | 1 18 | 0                    | 40 | 6 37                  | 1 22 | 0                   | 45 |                      |      |                       |    |                     |  |
| 40                       | 4 40                  | 1 11 | 0                    | 35 | 4 52                  | 1 12 | 0                   | 36 | 5 37                  | 1 16 | 0                    | 39 | 6 15                  | 1 20 | 0                   | 44 |                      |      |                       |    |                     |  |
| 41                       | 4 15                  | 1 8  | 0                    | 34 | 4 28                  | 1 9  | 0                   | 34 | 5 3                   | 1 13 | 0                    | 38 | 5 52                  | 1 18 | 0                   | 42 |                      |      |                       |    |                     |  |
| 42                       | 3 50                  | 1 5  | 0                    | 32 | 4 3                   | 1 6  | 0                   | 33 | 4 39                  | 1 10 | 0                    | 36 | 5 30                  | 1 16 | 0                   | 41 |                      |      |                       |    |                     |  |
| 43                       | 3 25                  | 1 2  | 0                    | 31 | 3 39                  | 1 3  | 0                   | 31 | 4 15                  | 1 7  | 0                    | 35 | 5 7                   | 1 14 | 0                   | 40 |                      |      |                       |    |                     |  |
| 44                       | 3 1                   | 0 58 | 0                    | 29 | 3 14                  | 1 0  | 0                   | 30 | 3 52                  | 1 4  | 0                    | 33 | 4 45                  | 1 11 | 0                   | 39 |                      |      |                       |    |                     |  |
| 45                       | 2 36                  | 0 54 | 0                    | 27 | 2 50                  | 0 57 | 0                   | 28 | 3 28                  | 1 0  | 0                    | 31 | 4 22                  | 1 8  | 0                   | 37 |                      |      |                       |    |                     |  |
| 46                       | 2 11                  | 0 50 | 0                    | 25 | 2 25                  | 0 53 | 0                   | 26 | 3 4                   | 0 57 | 0                    | 29 | 3 59                  | 1 5  | 0                   | 35 |                      |      |                       |    |                     |  |
| 47                       | 1 46                  | 0 45 | 0                    | 23 | 2 1                   | 0 48 | 0                   | 24 | 2 41                  | 0 51 | 0                    | 27 | 3 37                  | 1 1  | 0                   | 33 |                      |      |                       |    |                     |  |
| 48                       | 1 21                  | 0 40 | 0                    | 20 | 1 36                  | 0 43 | 0                   | 22 | 2 17                  | 0 49 | 0                    | 25 | 3 15                  | 0 59 | 0                   | 32 |                      |      |                       |    |                     |  |
| 49                       | 0 56                  | 0 34 | 0                    | 17 | 1 12                  | 0 38 | 0                   | 19 | 1 51                  | 0 45 | 0                    | 23 | 2 51                  | 0 56 | 0                   | 30 |                      |      |                       |    |                     |  |
| 50                       | 0 31                  | 0 29 | 0                    | 12 | 0 47                  | 0 31 | 0                   | 15 | 1 30                  | 0 41 | 0                    | 21 | 2 29                  | 0 51 | 0                   | 29 |                      |      |                       |    |                     |  |
| 51                       | 0 7                   | 0 12 | 0                    | 6  | 0 23                  | 0 11 | 0                   | 10 | 1 6                   | 0 36 | 0                    | 19 | 2 7                   | 0 49 | 0                   | 27 |                      |      |                       |    |                     |  |
| 52                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 42                  | 0 28 | 0                    | 15 | 1 44                  | 0 44 | 0                   | 24 |                      |      |                       |    |                     |  |
| 53                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 19                  | 0 19 | 0                    | 10 | 1 22                  | 0 39 | 0                   | 21 |                      |      |                       |    |                     |  |
| 54                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 59                  | 0 34 | 0                   | 18 |                      |      |                       |    |                     |  |
| 55                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 37                  | 0 27 | 0                   | 15 |                      |      |                       |    |                     |  |
| 56                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 14                  | 0 16 | 0                   | 9  |                      |      |                       |    |                     |  |
| 57                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  |                      |      |                       |    |                     |  |
| 58                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  |                      |      |                       |    |                     |  |
| 59                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  |                      |      |                       |    |                     |  |
| 60                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  |                      |      |                       |    |                     |  |
| 61                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  |                      |      |                       |    |                     |  |
| 62                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  |                      |      |                       |    |                     |  |
| 63                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  |                      |      |                       |    |                     |  |
| 64                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  |                      |      |                       |    |                     |  |
| 65                       | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  | 0 0                   | 0 0  | 0                    | 0  | 0 0                   | 0 0  | 0                   | 0  |                      |      |                       |    |                     |  |



**Tertia.**

|                       |   |   |
|-----------------------|---|---|
| 4                     | 5 |   |
| Argumenti Lune Signa. |   | 6 |
| 8                     | 7 |   |

HH 1

# Tabula Semidiametrorum Luminariorum et Umbre.

| Linee numeri<br>cōmunes. |         |        | Semi<br>diame<br>ter<br>visual<br>Solis | Semi<br>diame<br>ter<br>visual<br>Lune. | Semi<br>diame<br>ter<br>vmbre | Varia<br>tio um<br>bre mi<br>nuta |
|--------------------------|---------|--------|---|---|-------------------------------|-----------------------------------|
| Dig. g.                  | Dig. g. | m. fa. | m. fa.                                  | m. fa.                                  | m. fa.                        |                                   |
| 0 0                      | 12 0    | 15 40  | 14 30                                   | 17 42                                   | 0 0                           |                                   |
| 0 5                      | 11 25   | 15 40  | 14 31                                   | 17 44                                   | 0 0                           |                                   |
| 0 10                     | 11 20   | 15 41  | 14 32                                   | 17 47                                   | 0 0                           |                                   |
| 0 15                     | 11 15   | 15 41  | 14 34                                   | 17 51                                   | 0 1                           |                                   |
| 0 20                     | 11 10   | 15 42  | 14 36                                   | 17 56                                   | 0 2                           |                                   |
| 0 25                     | 11 5    | 15 43  | 14 38                                   | 18 0                                    | 0 3                           |                                   |
| 1 0                      | 11 0    | 15 45  | 14 41                                   | 18 11                                   | 0 4                           |                                   |
| 1 5                      | 10 25   | 15 47  | 14 45                                   | 18 21                                   | 0 5                           |                                   |
| 1 10                     | 10 20   | 15 49  | 14 49                                   | 18 32                                   | 0 6                           |                                   |
| 1 15                     | 10 15   | 15 51  | 14 54                                   | 18 45                                   | 0 7                           |                                   |
| 1 20                     | 10 10   | 15 51  | 14 59                                   | 18 59                                   | 0 8                           |                                   |
| 1 25                     | 10 5    | 15 55  | 15 5                                    | 19 14                                   | 0 10                          |                                   |
| 2 0                      | 10 0    | 15 58  | 15 12                                   | 19 31                                   | 0 12                          |                                   |
| 2 5                      | 9 25    | 16 0   | 15 19                                   | 19 49                                   | 0 14                          |                                   |
| 2 10                     | 9 20    | 16 3   | 15 26                                   | 40 8                                    | 0 16                          |                                   |
| 2 15                     | 9 15    | 16 6   | 15 34                                   | 40 28                                   | 0 18                          |                                   |
| 2 20                     | 9 10    | 16 9   | 15 42                                   | 40 49                                   | 0 21                          |                                   |
| 2 25                     | 9 5     | 16 12  | 15 50                                   | 41 11                                   | 0 23                          |                                   |
| 3 0                      | 9 0     | 16 15  | 15 59                                   | 41 33                                   | 0 26                          |                                   |
| 3 5                      | 8 25    | 16 18  | 16 0                                    | 41 56                                   | 0 28                          |                                   |
| 3 10                     | 8 20    | 16 21  | 16 17                                   | 42 21                                   | 0 31                          |                                   |
| 3 15                     | 8 15    | 16 25  | 16 27                                   | 42 47                                   | 0 33                          |                                   |
| 3 20                     | 8 10    | 16 28  | 16 37                                   | 43 13                                   | 0 36                          |                                   |
| 3 25                     | 8 5     | 16 32  | 16 47                                   | 43 38                                   | 0 38                          |                                   |
| 4 0                      | 8 0     | 16 35  | 16 56                                   | 44 2                                    | 0 41                          |                                   |
| 4 5                      | 7 25    | 16 38  | 17 5                                    | 44 26                                   | 0 43                          |                                   |
| 4 10                     | 7 20    | 16 41  | 17 14                                   | 44 49                                   | 0 45                          |                                   |
| 4 15                     | 7 15    | 16 44  | 17 22                                   | 45 11                                   | 0 47                          |                                   |
| 4 20                     | 7 10    | 16 46  | 17 30                                   | 45 31                                   | 0 49                          |                                   |
| 4 25                     | 7 5     | 16 48  | 17 38                                   | 45 50                                   | 0 51                          |                                   |
| 5 0                      | 7 0     | 16 50  | 17 44                                   | 46 7                                    | 0 53                          |                                   |
| 5 5                      | 6 25    | 16 51  | 17 49                                   | 46 22                                   | 0 54                          |                                   |
| 5 10                     | 6 20    | 16 52  | 17 54                                   | 46 34                                   | 0 54                          |                                   |
| 5 15                     | 6 15    | 16 53  | 17 58                                   | 46 44                                   | 0 55                          |                                   |
| 5 20                     | 6 10    | 16 54  | 18 1                                    | 46 51                                   | 0 55                          |                                   |
| 5 25                     | 6 5     | 16 55  | 18 3                                    | 46 55                                   | 0 56                          |                                   |
| 6 0                      | 6 0     | 16 55  | 18 4                                    | 46 57                                   | 0 56                          |                                   |

Tabularum Eclipsium AD. Georgij Perurbachij  
Airi in Astronomia et omni Adathe  
matica perspicacissimi

§ 3 18 3 5.

**Venerabili & egregio viro dño Georgio**

Ratzenperger Artii & philosophiæ magistro. Facultatis artiû

Studij Vniuersitatis decano optime merito Georgius

Tannstetter Collimatus Lycoripensis Artii

et Medicinæ Doctor S. D.



Nihil mihi inter omnia quæ in animo sunt plus obest uenit: & memoriam aliquando sollicitam uehemētius angit: q̃ gratificari his qui de me & studiosis (mathematices præsertim) quotidie bene merentur. Ut enim munificentia dono inter mortales nihil est præstabilius: ita et gratitudine: quæ beneficiæ correspondet: nihil esse debet in animis nostris potius: propterea q̃ per eam humanæ cuiusdam recordationis iudiciū: & bene actorum memoria exhibet. Eam ob rem quæ rarissimè dare in lucem emendatiore Ioannis de monte regio Primi mobilis tabulam Tu mihi Georgi ueniebas in mentem: & inter primos memoriam quætebas: cui ut merenti optime hæc dicarentur. quæ

præ cæteris Astronomiæ subtilissima experimēta prosequeris: & tam eius artis studiosos amas: q̃ artem amplecteris. Hanc tabulā tu sūmes in animi tui oblectationē: & nostræ erga te beniuolentiæ testimoniū. Non quidem q̃ existimare debeas: me hac oblatione officium absoluerè uoluisse: quod tibi in maioribus promptū esse debet. verum q̃ mihi in exemplaris climati obtinēda copia fuisti adiutor: & operam nostrā in his edendis præclaris operibus probare uisus es. Admitte igitur apud te quicquid nostra uoluntas sedulo tua gratia instituit: & tibi persuade: me toti aliquid quando facultati artium (cuius iam agis supremū magistratum) summa diligentia summisq̃ uisibus benefacturum. Vale suauiter. Viennæ Austriæ Quinto kalis Martias Anno Christi. 1514.



¶ **Andree Seiborij Voli In tabulam primi mobilis Præfatio.**

**I**OANNIS DE MONTE REGIO Mathematici cõsummatissimũ opus tabularum Primi mobilis: nunq̃ satis laudari: felicissimo auspicio almi Viennensis archigymanasi: cuius is alumnus erat (lectores ornatissimũ) in lucem prodit. vt ingenuarum rerum amatores incoelestis machine cõtemplationibus voluptentur: ex his proiectum accipiant: & in maiora harum iuamẽto exurgãt vt & ipse Ioannes ductu præceptoris sui doctissimũ Georgij Peurbachii in summũ excreuit mathe-  
maticum. Sed quid mirum: si ipse longior vel præceptorem vicerit: vel plura scripta cõdiderit: di-  
modo & gnanus quisq̃ cui in homeris gigantis stare conceditur: plura q̃ ipsemet gigas & temoto-  
ra (si minime torpeat) videre possit: gigantis magnitudine atq̃ sueltitine subnixus. Hoc exemplo si  
seduli si studiosi in horum gigantum libris esse contendamus: ipsorum & quorumvis doctissimorū  
humulis ad pulchra & ingenua videnda tradud & trãsportari poterimus. quo & nostram gloriam  
docte posteritati transmittemus. Habes chare lector in his tabulis primi mobilis amplissimã arẽ  
Nonas tabulas calculandi: instrumenta noua codendi: tractatulos nouos eliciendi. Sunt enĩ theo-  
reumata uniuersalia omni habitationi: omni climati seruientia: ex scientia sphericorum triangulo-  
rum exorta. quæ a doctissimis huius artis & machæ ingenio utris multo amplius q̃ presentes cano-  
nes habent: extendi possunt. Nondum est scientia primi mobilis exhausta. non sunt omnes circuli  
ares & poli satis contemplati. semper aliquid nouæ inuentioni patet. Quod horoscopia Ioannis  
Stabilis Austriaci testari plane possunt: & circulus illuminationis nuper a me in canonibus globulæ  
cosmographiæ cõmemoratus. Est in his tabulis uniuersalis modus inueniendi arcus quorumcuq̃  
circularum sphaera: siue magnorū: siue aliorum. Est opus nobile: cum ipso cœlo pro quacunq̃ tem-  
poris utilitate sempiternũ. Nedum cœlestis corporis: sed & terreni: quod in modum cœræ oēs  
circulos & arcus tanq̃ a sigillo cœlesti impressos: tam diuersimode imaginatos accipit. siue cosmo-  
graphice: siue scheotice: siue alta quauis ula contemplari libeat. Quacunq̃ etiam sectione parabo-  
la: antistilbene siue elipsi. Item idindrona: concava siue conuexa: quacunq̃ etiam projectionis ula.  
Pendent item ex hac primi mobilis scientia instrumenta pene infinita. Astrolabium: sapheæ: orga-  
num Ptolemæi: metheroscopion: armillæ: torquetum: rectangulus: aquatoria: compassi: quadrã-  
tes: & alia id genus multa. O q̃ ampla: q̃ nobilis: q̃ necessaria omnibꝫ astronomiæ studiosis: & tanq̃  
alphabetaria & præliminaris scientia. sine qua nihil perfectum: nihil cõsummatũ in hac astronomi-  
ca præcedenti disciplina. Age igitur quisquis es cœli uerus amator has tabulas ductu diligentia &  
solicitatione cõfratris mei charissimĩ doctõris Georgij Tannstetter impressioni datas. Emulo: co-  
lito: nocte dieq̃ manu uersato. Promitto laboris præmium dignissimũ: utilitatem maximã: nõ sine  
gloria cœlesti. Quam christus dominus summus cœlorum arbiter omnibus cœli & uere christia-  
ne pietatis studiosis præstare dignetur. Amen.

**Problemata cum expositionibus eorum**  
Per venerabilem virum magistrum Joannem Germanum de  
Monte regio composita pro tabula de Primo mobili  
universalis et perpetua fausto sydere incipiunt.

Problemata Primum.



**Generalem tabulam laevam in primis ex planare.**

Omnes numeri in hac tabula positi representantur et circumferentia maiore in sphe-

alter aut in area tabule inter numeros principales perpendit. Sic itaq; lateraliter sine arcu tabula ingreditur: semper maiore numerus in porta transversa id est in fronte tabule querendus est si fractionibus caruerit. Alteri introitus lateralis verubet etiam numerus utrobique accipi permittit. Lateraliter igit ingreditur tibi si uterq; numerus introitus alius offerat integer: quare masculin in fronte tabule; veluti iamvis monemus: reliquum autem lateralem descendentes versus sinistra manum supputatiois. Nam obrecto est in columna super alios quatuor questus. Si vero alteri eorum minutia quatuor adiecta fuerit: ubi gressu ei qui in fronte tabule accipendus erat: intra primo cum numeris integris paucissimo minoribus: et numerum arealem ut prius nota: cum differentia laterali intra eam posita. Deinde minutias gradibus integris adiacentes quere in fronte tabule manualis: numerum autem minutiarum differentie lateralis in latere descendenti: quodq; in angulo communi occurrat subscribe numero areali iam dudum scripto. In eodem rursus latere descendenti quere numerum secundum si quod fuerint differentie lateralis: et quod e directo eorum inaequitas sub minutia in fronte tabule accepta subscribe prius notatis: unde quodq; suo generi. Potest autem si celeritate calculi gaudere vice secundarii plurius trigenario numero accipere unam minutiam prius: aut eas priores negligere si pauciores quam triginta fuerint. Sic enim semel tria tabellas manualium inter se facit et: et minus plures quam triginta secundas perdes. quod quidem iactura citius putat in omnibus ferme computationibus astronomice. Ut autem scias denominationem consiliet numerum in area tabule manualis reperi. documento vulgaris utendi est talis. Et modo alter quid duorum numerorum introitus gradus habet alter autem minutias prius: numerus posteriori columnelle minutias prius: et debet prius aut gradus representabit. Quomodo vero utrobique numerorum introitus minutias significat: posteriori numerus columnelle secundas prius aut minutias prius precibit. At si alter quid numerorum introitus minutias prius: alter autem secundas complectit: posteriori numerus columnelle tertias prius aut secundas decernit. Quod quoniam huiusmodi numerorum varia representatio facile cognita est abunde: a periculis omnibus liberata: non amplius impendentiarum de ea sermone faciemus. Huiusmodi igit numeros locis suis oportuno conscriptos in unam summam congrega: secundas videlicet secundas/minutias/gradus. et gradus gradibus addendo. Et si autem fractio quilibet formula operationis cogente seraginarum triginta fuerit numerum unitate ordini precedentem adicias: quotiens a posteriori seraginta tolli possunt: quemadmodum in aliis supputationibus similibus fieri solet. Si autem maiori numero introitus existente integro: minor habet fractionem illi quam: non alter quam prius operaberis: hoc uno animadvertito: quod ubi iam dudum acceptis differentiam lateralem bic differentiam descendente afflumas. Utroque demum numerorum introitus minutias habente iam expostum opus ingeminabitur. Intra idem tabellam manalem tam cum minutis numeri introitus alius maioris: et differentia laterali: quam cum minutis numeri minoris: ac differentia descendente: quicquid et tabella manuali colligere: numero areali tabule generalis superaddas. Porro crediderim bonum esse capere: qui hoc precepta viri cui ad medium transcurru celeritate ingem sui non ante capiet. Et si quis tamen ad hoc scriptum animi torquet: eum plurius deinceps instructionem penitus cunctetur. Pateret de introitu laterali. Rursum arcum ingreditur tabulam quid facto opus sit deponemus. Quod non donec numerorum introitus alius in fronte tabule generalis accipio: qui si fuerit integer: nullo videlicet fragmento minutiarum

quare sub eo in area tabule reliquum id est minorem in-  
troitualem numerum. et directo cui eius (si modo ad vi-  
ngum repositus fuerit) habebis arcum quatuor finitiorum  
lum in latere descendenti. Si autem basimodum secundum  
introitualem numerum inuenieris precise in area ta-  
bulæ accipe pro primo minorem eo: numerusq; lateri de-  
scendenti et oppositum cum differentia descendenti nota-  
to. Deinde numeri tui cum quo intrare volebas 2. nu-  
meri minoris eo in tabula accepti differentia dice: quæ  
queretur in area tabule manualis in ea columnella cui in-  
scribitur numerus minutiarum in differentia descendenti  
existens. et directo eius in latere finitiorum habebis  
minutias numero prius notato addendas. Si quæ tui  
secundæ in differentia subiecticia fuerint: eas negligere  
poteris: nisi trigonarum superent numerum: tunc enim loco  
ipsarum vnam minutiarum prius accipere licet. hoc nempe  
patet nihil erroris scilicet operi tuo imiscuisti. Quod si  
prius quoque introitualem numerum: id videlicet qui in  
fronte tabule accipiendus erat: si actione non caruerit  
opus iam hunc expostum duplicare oportebit. Ad  
primo intrabis cum numero qui pro primo maior est eo  
quem in tabulam mittere volebas: et accipiendus serui-  
dus erit numerus in latere descendenti occurrens:  
veluti antea innotuit est. Deinde pariter agendum est  
cum numero pro primo maiori: omnino vti prius ac-  
cipiendus est numerus in latere descendenti: cuius demum  
et prius seruat differentia animadvertenda est. Idem  
itaque differentia cum minutis numeri introituale ma-  
ioris mitte in latera tabule manualis: quodque in angulo  
comuni ut affolet offeritur minue et maioris duorum  
numeriorum paulo ante elicitum: eo videlicet qui per  
primam operationem simplicem inuenitus est. sic etiam  
notus reliquerit arcus quem petebas. Illud autem  
circa introitum arealem non est obliuione pretercundum:  
quod quando duo numeri in tabulam mittendi sese non ex-  
cedunt quadrante circuli id est nonaginta gradus semper  
pro numero quæsitio acceptas. Aliud denum memoris  
tue adnuncium tradimus. Quotiens tabulam gene-  
ralem lateralem ingrediens: tabellam manualet late-  
ralis quodque si opus fuerit intrabis. et si arearum boie  
numeros quosque immiseris: illi arearum quosque res  
ipsa postulat minutias inferre. Et ubi exemplari sup-  
putatio facilius forsitan intelligas quæque tradita sunt  
proponam tibi duo numeri: vnius quidem graduum  
37. alter autem 39. lateralter in tabula mittendi. Accepto  
numero maiore 47. graduum in fronte tabule: sub eo in  
latere descendente secundo animaduerto numerum minore  
39. graduum. et directo cum eo inuenio numerum areale gra-  
duum 27. minutiarum 24. et 30. quæ querebatur. Cum  
offerat tibi maior numerus 53. graduum 22. minutiarum  
minor vero 48. graduum. Intro vti prius quæ graduum 53. et  
48. inuenies numerum arealem 5. 16. 24. 30. 22. et  
seruatum autem lateralem 31. 30. 4. Deinde sub 27.  
minutias acceptas in fronte tabule manualis in veris  
triginta trium minutiarum inuenio 14. 14. 51. subtrahenda  
numero areali antea notato. In eadem quoque columnella  
secundæ duas supponendas item numero areali cum  
reliquo prius subscripto. Quibus cunctis in vnum col-  
lectis aggregat arcus quæritur 5. 16. 31. 39. secundum 45. Su-  
perstans cum autem deinceps videret subnectere exempla  
rem calculum minores duorum numerorum introituum  
minutias habentes: cum ne minimo quidem momento prædicta  
discret supputatio. Et sed offerat quispiam vtriusque  
merum fractum: maioris quidem 5. 64. 31. 37. minoris autem  
5. 55. 43. Intranti ergo tibi cum 64. 255. gradibus o-  
currat numero areali 5. 47. 24. 30. 46. cum differ-  
tia laterali 31. 30. 4. et differentia descendenti 45.

30. 19. Cum 37. itaque minutie numeri maioris 7. 31. mi-  
nutie differentie lateralis idem per tabellam manualet  
31. 19. 30. 4. quæ sub scribo areali numero supra notato  
Idem aliter cum 43. minutis numeri minoris 1. 45. minu-  
tis differentie lateralis per tabellam manualet collige  
31. 12. 30. 15. subtrahenda numeri predicti. Quibus  
tandem in vna cõgesta summa: 5. 48. 31. 16. secundum 30.  
riens. In basimodum quoque aut supputatio secundum  
trigenario numero plausibile sunt negligere concedit.  
Idem quibus etiam trigonarum superantibus vna minuta  
prima band absurde supponetur. Idem quippe ratio-  
nalis si quid preterbit: nequaquam ab vno minuto multo  
recedere poterit. Idem de introitu laterali subiectissime  
Cum ad introitu arealem animum appellandus est.  
Sint duo numeri propostit: quorum alter quidam graduum  
39. alter vero graduum 10. minuta prima. 10. 7. secundum 19.  
collectis. Unde maior in fronte tabule generaliter nu-  
merum aut habet in secunda columna offendo inter nu-  
meros areales. Cui quidam finitiorum propositi nume-  
rus lateralis descendens 53. graduum in latere talis co-  
lunnæ 10. igitur est quæ querebatur. Sed si alter eorum gradus  
55. alter autem 39. 31. 30. 45. habuerit: iterum accipio ma-  
iorem in fronte tabule. Sub quo nulla arealem numerum de  
secundo equalium reliquo datos numerorum. verum pro primo  
minore eo video 5. 19. 31. 12. secundum 20. quæ vbi et propo-  
situs numero demum reliquerit prima. 12. secundum 19. quæ  
vbi nomen tribus differentis minoris. Numerum etiam  
in latere descendenti repositum et directo huius numeri are-  
le 5. 19. 31. 12. secundum 20. quæ 51. 5. 19. 31. Deinde differ-  
tia descendente ibidem reposita: quæ est 31. 19. secundum 31. 12. ad  
40. Iere prima accipio in fronte tabule manualis. Sub  
directe descendendo inuenio differentiam minore et duo-  
eto. 19. primor in latere descendenti tabule manualis.  
Idem ergo 19. prima minuta adiungo. 51. gradibus antea  
seruatis: ut conerit arcus quæritur 51. 31. 19. Cum  
plus obiciat mihi sub quibus boie numerorum maioris quæ  
5. 67. 31. 15. minoris vero 5. 52. 31. 56. accipio 67. graduum  
pro numero maiore omittis minutias: minoris autem vti  
propositus est dimitto. et per omnia veluti iam hunc ex-  
positis est inuenio 5. 66. 31. 15. quæ numerum scilicet adno-  
dio. Idem aliter cum 68. gradibus tantum maiore numero in  
troituale assumendo minorem cum quo prima vnius sum  
reperio 5. 59. 31. 23. Inter hunc autem 2. prius cõfictum  
numerum differentia cadit 43. primor. Quæ quidem cum 15.  
prima minutis iuxta 68. gradus numeri maiore  
subtrahis mitto in latera tabule manualis. et in angulo comi-  
ut affolet accipio prima. 10. secundum 45. subtrahenda  
a 60. gradibus 7. 6. prima antea seruatis. Quo facto te-  
linquantur 5. 59. 31. 55. ferme. Et tantum enuncibus quæ ob  
intro quæritum. Idem itaque vniuersalem tabule vnum  
genio inuenire expostum. in quo si crebro crecescens  
nihil propositis totius operis fugere te poterit. In posterum  
enim præcepta quædam agendum propones: vel laterali in  
troitu vel areali: nec quæ simpliciter: nec aut iterato: quæ  
admodum infra videbitur absolumus. Illud demum te  
minime oportebit: quod quæ numerum introitualem quadra-  
te circuli trāscedendo implentur: quia nulloquam in tabula  
scribitur: sed residui eius de femiorum loca in tabula docet  
Quod etiam vbi opus fuerit nonnunquam loca proprio ad-  
monendum. Idem si introitu areali agendum fuerit  
numeros proprio ediles: spectum si parui fuerint: pingui  
supputatio a veritate parum aberrare: non propter  
imbecillitatem tabule: quippe quæ perpetuam ac geometri-  
co initium fundamento habet firmitudine. Idem qui la-  
teris sua graduum surgit: crementis aut numerorum are-  
le tenore non seruat equalitatem: quod quidem fieri nec esse  
est: vti si qua gradibus integris addebat minutia: non tantum  
positione de differentia numerorum areali iuxta partitio-



que quoniam nupqua ad vngul offert inter numeros area  
 lea: accipio numeru pocius minor: scilicet 5. 14. 14. 14  
 fa. 5. iuxta que verius iussit lacem 5. 19. ad partem fer-  
 nandi: cui differetia descendens. m. 18. 50. 41. Differetia  
 aut numeri arcus iam accepti 7 declinationis ppositi  
 est m. 8. fa. 55. quam quero inter numeros arcuales tabe-  
 le mangali sub. 19. minuta erat cui differetia descen-  
 dens m. 18. fa. 41. id est. 19. ferme minute: et occurrit mi-  
 ni numerus proxim. m. 8. fa. 52. cui iussitiorum oppo-  
 nitur minuta. 28. adiungende. 19. gradus supra feruati.  
 Jam igitur negotium illud absolutum efficit: si marina solaris  
 obliquo 8. 21. pte esse coepletur. et amariet nays declina-  
 tionis pposita debet. 19. gradus. 7. 18. ferme minuti ab al-  
 tera sectio non equoatialis computanda. Uerum quia memo-  
 rata sol marina declinatio maior qde est. 21. minor aut  
 24. gradibus: utro tabulam cum eisdem. 14. gradibus  
 perinde quasi cu marina solis declinatione: non aliter  
 qd antebac procedendo elicio arcum. 17. gradus 7. 38. mi-  
 nutis. qui minor est arcu iam dudum seruato in vno gra-  
 du minutisq. 50. 19. ane 14. 19. obliquo mto in latas ta-  
 belle manualis cum. 10. minutis que in marina solis de-  
 clinatione iuxta. 21. gradus erit: et in angulo comuni  
 geminato introitu colligo minutis. 55. id est dimidium  
 de vno gradu. 2. 50. minutis. 19. 55. minutis aufero  
 ex. 19. gradus. 18. minutis: id est ex numero p primo vsum  
 tabule generalis elicio. sic enim relinquitur arcus egypti  
 ce quidit. 18. gradus 7. 33. minutos.

Problema Quartum.

**L**atitudinem Lune investigare.  
 C Intra later alter cum distantia veri loci lune  
 a nodo pocius 7 cu maxima lune latitudine. re-  
 perire em in angulo comuni latitudinem quesi-  
 ta. Accipere aut ex latitudine lune subiecta argumetur lati-  
 tudinis lune additis: itradu arcu cu latitudine quibet  
 pposita maxima 7 altera latitudine. habebis em in late-  
 re descendente et directo numeri arcus distantia lune ab  
 altero duos nodos. Sic demum quid si transiret et  
 distantia lune ab altero nodos latitudinis sui: 7 viciuersa  
 ex latitudine supposita remotioem a nodo supputare  
 docum: quia ad solcm in simili calculo propter initium  
 operta presentia gemino problemate 7 summa. Distin-  
 ctiam aut lunca nodo pocius p argumentu latitudinis  
 facillime agnosce. Nam si tale argumentu latitudinis  
 quadrante circuli id est nonaginta gradibus minus fue-  
 rit: ipsi summet tenebris po distantia petita. Et vo tria  
 signa supernacrit: min quide sex signa erit: dempto  
 eo a sex signis: distantia lune a nodo caude relinquetur.  
 De si vltra sex: extra nouem vo signa desinat: minor et eo  
 semicirculi: vt remaneat distantia a nodo qua volbas.  
 Et aut numeru nudo signis: suppediret: residui de to-  
 to circulo erit remotio lune a nodo capitis. E contra qd  
 distantia ab altero nodos data: argumentu latitudinis  
 eclari non poterit positione lune in circulo suo declini-  
 teri perpendiculari. Cuius rei ampliore explanatione: qui  
 vulgaris admodu existit: tunc ingenio relinquimus: ne  
 frustra diem in rebus minimis truisse videamur. Et cui  
 forte absentia cu videat: qd a solis obliquo ad lune  
 transiunt repete transire fecimus: ut non ab re facti  
 consistere vbi similitudine calculi animaduertit: quim  
 et faciliore habet supputatione lune latitudi qd solis  
 declinatio: qd illius quide latitudo maxima in gradibus  
 consistat puris: aut obliquoationi maxime fragmen-  
 ta gradui addeberunt. Et de qd tabula latitudinis lunari.  
 intergram habeo in ea pagina cum fronte quinario ur-

signum numero. Qualem aut denominatione: bene-  
 lem scilicet an austrina scilicet lune latitudo: ex ipso ar-  
 gumento latitudinis: quem admodu compue atque mo-  
 tuu tradunt conicere oportet. C Inunc exipio v-  
 tudeas quanta fit lune latitudo habentis distantiam a  
 nodo. 27. gradus. Incipio in fronte tabule quos gradus  
 maxime latitudinis: in latere aut descendente. 27. gradus.  
 iuxta quos offendo 8. 2. m. 16. fa. 4. tantum pmo lune  
 quetiam latitudi. C Porro cupiat quispam lune re-  
 motione a nodo mto latitudo eius. 8. 1. m. 40. fa. 25. co-  
 plecti: intrabo eadem arcum tabule vbi offertur mihi  
 numerus arcus proxim inferiori data latitudine 8. 1.  
 m. 37. 50. 34. iuxta. 19. gradus laterales. Ille aut numerus  
 arcus demptus ex ea latitudine relinquit m. 2. 1. 51. hunc  
 differentiam video in area tabelle manualis sub. 5. mi-  
 nutis. erat em differetia descendens in tabula generali  
 m. 4. fa. 56. et c directo iussitiorum in latere tabelle sunt  
 34. minutis adiungende. 19. gradibus antebac repositis.  
 Distincta igit a nodo erit gradus. 19. 34. minutis 7 sec. 34.

Problema Quintum.

**I**n quolibet arcus egyptice ab eq-  
 noctiali summentis initium ascen-  
 sione in sphaera recta numerare.  
 C Intra arcum cum complemento arcus egyptice dati  
 et complemento declinationis eius: quodq in latere  
 descendente occurrerit: qd quadra circi sumferet minus.  
 nam quod reliquu erit: ascensione rectam manifestabit  
 quam querebas. Complementu aut arcus cuiusq. est  
 differetia eius 7 quadrantis circuli: qui nonaginta con-  
 tinet gradus. Et si arcus a cuiusq. aliunde qd ab equa-  
 tore incubat ascensione rectam metiri libeat: cum ipse sit  
 excessus duos arcus egyptice ab equatore incubentis:  
 vbi vtriusq. eorum ascensione rectam acciperet: altera  
 ex altera demptura: residuu po ascensione quesi-  
 ta teneto. Idem aut documentu tradimus de arcu  
 egyptice quadrante non superat. Nam si ppositus  
 quispam arcus egyptice quadra circuli maior extiterit  
 minor quide semicirculo: subtrahemus cum ex semircu-  
 clo: 7 residuu modo predicto inuenit ascensione recta  
 et semicirculo minime. sic enim ascensio recta arcus  
 ppositi relinquit. Et aut arcus ppositus semirculo  
 quide maior fuerit: minor aut tribus quartis: ablato  
 inde semicirculo: reliquu ascensione recta numerabim  
 modo predicto. Ipsa em adducta dimidio circulo  
 ascensione rectam arcus ppositi consistit. Et si arcus e-  
 ptyce ppositus tre quartas circumferet excederit:  
 cum ex toto circulo decet: 7 reliquu ascensionem rectam  
 quemadmodu eripuit id elicit et toto circulo rence  
 vt relinquit ascensio recta arcus ppositi. Et quadrit  
 aut egyptice eoascendere quadrante equato: illi quoq.  
 duplicato bene duplicabit: illi triplicato bene triplica-  
 bit in sphaera recta debet nemini medio erit docto asse-  
 nio bubu erit. Idem quide problemu est i operatio  
 aut facili admodu: mihi habito do egyptice ad equato-  
 rem pocius de latere. C Elie batus rei exemplum in pri-  
 mis quinq gradibus arietis: quoniam ascensio recta  
 quero tali ordine. Complementu quinq gradus est 85. 5:  
 declinatio aut puncti termini: quatu arietis gradum  
 est duos fere gradus. cuius declinationis complementu  
 est 88. Intro itaq tabulam arcum est 88. 7. 85. 2  
 inuenio fm tenet primi ac generalis problemat: arcu  
 85. gradus 7. 25. minutos 7 demptus ex nonaginta gra-

Abhis relinquit ascensionem rectam quattuor gradus 235. minutiarum. De arcu autē egyptice non ab equatore sed aliunde intitu sumere exemplarem computationē nō subquimus: quoniam formula operationis similia est illi quam nunc exposuimus: si cum ingenuueris: t postremo duarum ascensionū hoc pacto inuentarum alteram ex altera subtraheris.

### Problema Sextum.

**E**ascensione recta pposita ab alterutra sectionis equinoctialis incipiente arcum egypti tibi debetum indagare.

**S**ol. per ista problema t procedentia per alias quoq; tabulas vulgares absolvere nemo nesciat. tamē quo generalius pulchritudo atq; utilitas nō sitre tabule pceptum clarior fieret: libuit ab hoc repemenda tabulā ipsam accō modare. Intra igit latet aliter cum complēto ipsius ascensionis recte t maxima solis declinatione. quodq; angulus cōmuni offretur ex nonaginta gradibus minus. cum residuo autē t ipsa ascensione recta arcum arcum intra tabulam reperies: ex quo directo numeri arcualis i latere descendenti arcum egyptice questum. Hec quidē dū ascensio recta pposita minor fuerit quadrante. Si enī quadrans pacis fuerit: arcum quoq; egyptice nonaginta gradibus numerari oportet. Si vō quartū circum fuerit superaverit: minor t semicirculiferis existens: subtrahat ipsam ex semicirculiferis: cum residuo fac ut supra monitū est arcū egyptice postremo elicitum ex dimidio circulo auferat: reliquū enī ostēdet arcū egyptice questū ab initio arcus numeridū. Quā si ascensio pposita semicirculo maior erit: minor tamē quadrans t triplicato: demas ex ea dimidiū circuli: t cum residuo arcum egyptice vti antea fecimus adducas. qui dū incepta semicirculo adiectus cōstabit arcum egyptice quē poscebas. At si ipsa ascensio recta tres quadrans circuli transgrediat: cum ex toto circulo minue: t cum reliquo ut superius traditum est: egyptice arcum agnosce. Ita enī ex integrā circumferentiā decussas relinquet arcum egyptice questum. Verba quidē complicata vident: erecuto autē supputatoria tam brevia q̄ facili cristit. f acilius tamē atq; celerius si lactaneria te possit pcepto sum ab solvere per tabulas ascensionū rectarum vilitas non timis inficias. Verum propter bone vsum solum non condidimus hoc opus: quia per ipsum noua ascensionū rectarum tabula particularis: itaq; obliquationis solaris: cum ceteris ex ea pendentibus t componi possint: t mirū debeat nostra pfectum temperate: quādo maxima solis declinatio minor est ea que passim ab astronomis supponit. Comperit enī non minueretia q̄ recentibus experimētis cum band qua q̄ transcedere gradus tres t viginti cum triginta minutis. Quā deinde alibi latius differēt licentia dabitur. In numeris itaq; particularē inferri stude mueri: nec nostra parit tabulas: quoniam modis inferre pceditū videtis. **N**ūc exemplarem accipe computationē. Sit oblata ascensio recta 41. gradus: cui quantum arcus egyptice debet exprobandū est. Complēmentū dūtaxat ascensionis est 47. gradus. Quos cū maxima solis declinatione 23. 15. m. initio latet aliter in tabulā: inuenio fm latus 2. 16. m. 57. s. 18. dūc numerū pmo ex 90. remanet 67. 23. m. 2. s. 42. Illud ergo reliquū cum ipsa ascensione recta ppo-

posita arcum in tabulam transire: ab solutaq; supputatione colligo arcū 45. 5. 7. 19. minutiarum: qui querbas.

### Problema Septimū.

**S**i arcus egyptice suā ascensionem rectam equaucrit: altero termino eius cognito: reliquam quoq; manifestare.

**S**ol. De arcu egyptice intelligēdū est: qui totus inter duas proximā puncta cardinalia concludit: ad neutrū tamen declinens. Intra itaq; tabulam arcum cum complēto t declinationis que debet pūcto terminali noto: t maxima declinatione solari. nam quod in latere descendenti ut mox est colligit: ex quadrante sumitū relinquit declinationē alterius puncti finalis. Hinc ex tertio problema ipse punctus: cui talis tribuit declinatio innotescet. **I**n cōpō supponat arcus egyptice a capite tauri sumens initium: qui vcluti pceptū equalis sit ascensionis sue recte. Quero reliquū terminū eius arcus. Declinationis pūcti dati est 2. 1. m. 10. Cū complēmentū 2. 28. m. 30. est cōplēmento maxime declinationis solaris 23. 44. m. 30. arcum in tabulā traducit: ubi pūcti numerū t latus 2. 2. m. 22. s. 20. dūc cōplēmentū est 2. 20. m. 42. s. 20. declinatio videlicet pūcti finalis: q̄ quidē debet gradus 2. duobus t tribus minutis: gradusq; 2. Arcus igit egyptice questus illic definitus cōpūctis gradus. 32. minutis. 1. t tauris quoq; ascensio eius recta comperitur.

### Problema Octauū.

**I**n arcum egyptice terminans arcum qui ascensionem suam rectā q̄maxime superat iuenire.

**S**ol. Intra tabulam lateraliter cum duobus numeris equalibus forte incidentibus. si in angulo cōmuni offēdes complēmentū maxime declinationis solaris bene est. Si in alium quemuis numerū in angulo cōmuni reperiās: cum alio item equalibus numeris tabulam lateraliter ingredere: exipiendo numerū anguli cōmuni. Hoc opus toties itera: assumptionis semp nouis numeris equalibus: donec in angulo cōmuni offēdes tale complēmentum maxime declinationis solaris: si fieri poterit. Nam si nusquam reperiri potest: tale opus iterandū est: donec in angulo cōmuni offēdes numerū proximū minoris complēmenti maxime declinationis solaris: itaq; proximū maioris. Notum numerorum differentia notat quoniam ipsa debet vni gradui. Similiter differentia numeri minoris ex cōplēmenti maxime declinationis solaris obiciat. quā deinde multiplicat per sexaginta minutiarum: et productū diuide per differentia maioris vni gradui: et teneat: quē admodū in alio similibus calculis fieri solet. numerus enī quotiens pūctis minutis adinuenietur: aliter duos numeros equalis: cum quibus cūctis numerū proximū minoris complēmento maxime declinationis solaris. Et tati autē additione nascetur complēmentum declinationis que debet pūcto pposito. vnde t eius declinatio innotescet. ex qua demā si tertiu problema consuleris: punctū ipsum agnosces. Ceteri gra



Si tū in fronte q̄ in latere tabule accepero gradus. 7. 3. angulo cōmuni habebō g. 66. m. 31. fa. 15. Si aut. 7. 4. gradus gematos hoc pacto lateraliter in tabulam miscro offeret numerus ille g. 67. m. 31. secūdo. 18. Cuius 7. precedētis numeri per tabulam elici differētia est gra. 1. m. 23. secūdo. 3. q̄ ipsecat ad vniū gradū. Item cōplēmētū maritimae declinationis solaris superat minorem dictos numerorum hac differētia gra. 21. secūdo. 45. quoniam si r̄tunde rō per sexaginta minutias: 7. inde nūtiā partiar per g. 1. m. 23. fa. 3. congregabo in numero quotiens g. 15. m. 43. quas minutias adiungo minori numero introituale: quod est g. 7. 3. ut conerescat numerus ille g. 7. 3. m. 15. secūdo. 43. qui est cōplēmētū declinationis p̄dicti quēsit. Unde ipsa declinatio emerget g. 1. 6. m. 44. secūdo. 17. que quidē deest gradibus. 16. 7. minutis prima. 19. tūm 7. triginta ferme secundas. Punctus igit hunc ecliptice arcum terminans bactus querēbat. Nam si r̄te numerantur ascensionem eius rectam: occidit g. 43. m. 45. fa. 30. que vna cum ipso arcu ecliptice quadrat arcus complētur. Quod quidē nō fortuito euenit: verū demonstratione certarebatur: quā declinationis in quinto problemate terminē de spherice explanant. Quādo aut sit huiusmodi erectionis: quo abundat arcus ecliptice memoratus: vtra ascensionē suam rectā: baud quāquā ignorabitur propter arcum ecliptice iam nōtificatum. Pari numerat: omni formula inuicigabitis arcum circuli declinationis: qui arcum ecliptice sibi respondentem q̄ maxime superat: affimēdo cōplēmētū maritimae latitudinis lunaris ad est. 85. vice cōplēmētū solaris declinationis maritimae. Simul etiā erectionis huiusmodi explorabitur: qui quing fere minutias vnius gradus attingit. Quō deniq̄ alterum illosq̄ p̄cti necesse est. Aut motus ecliptice lunaris in suo circulo declinē est irregularis. Aut calculum vtri motus lune nunc quidē deficere a veritate: nunc vō superflue quing minut. vni g. adius. Summam horum incommēntū figurat vniuersi aiti o nomi docti: qui inegalitatem motus lunaris demonstrā spherice p̄ctum supputari omnes lineas mediōrū motus lune vna cum superflue p̄ctum ecliptice in ipso circulo declinē lune statuant. Secundū vō absentem 7. p̄ctum limite videtis illis superflue hōis numeratē: q̄ qui omnes motus: nō modo lune: vtrāq̄ etiā aliarū stellarū scē ad vnguem inuenire gēstū: 7. falso iactat. quippe q̄ nisi ad secundas 7. tertias ac vltimas descendat minutias: rudem 7. illamā seferre computū arbitrat: ignorantē vtrūq̄ fundamēta huiusmodi supputatio num abis oculo inspicere: nec nequissime. qui quicquid modum in consideratomb̄ mule fari potest: illa 7. calculo frequenter certissima robur p̄ctūq̄ adiunt.

### Problemata Nonū.

**H**ec congerie ex arcu ecliptice et ascensione sua recta: vtrūq̄ arcū discernere. Ex precedētis cūcā maximā differētia arcus ecliptice 7. ascensionis sue recte. quā lateraliter tabule inferas cum propōsitā egeris. habebis cum in angulo cōmuni differētiā que arcus ecliptice quēsit suam excedit ascensionē rectam: cum itaq̄ et data congerie aufer. nam reliqui dimidiū notū habet ascensionē quēsitā. Cui si ipsam deinceps adieceris differētiā: nec erit arcus ecliptice quēsitus. In exemplo datur mihi summa viginti gradū: quā cōstit arcus quālibet ecliptice functionē ascensionis sue recte.

Aditū itaq̄ differētiā que inter arcū ecliptice 7. ascensionē suā cadere potest reperio g. 2. m. 29. quā late ealiter mitto in tabula cūcā gradibz colligo in arcu tabule g. 0. m. 51. ferme: idē differētiā propōsitā arcus ecliptice 7. sue ascensionis recte. Quam dēmo et data egeris. 20. gradū. 7. reliquū numerus ille g. 19. m. 9. Lunae dimidiū g. 9. m. 34. secūdo. 30. ostendit ascensionē rectam. Et ascensionis superaddo memoratā differētiā: et percipit arcus ecliptice quēsit g. 10. m. 25. secūdo. 30.

### Problemata Decimū.

**A**mplitudinē ortus aut usq̄ puncti ecliptice ab eā parte declinationis in oī horizonte cōputare. Quod de punctis ecliptice docēbim: ad oīa quoq̄ alia p̄ctā celi in quacūq̄ regione orti solis: poteris accommodare modo declinationis con cogitare. Intra igit tabulam areatū cū cōplēmētū altitudinis polaris in tā regione 7. declinationis p̄cti propōsitū. reperies enī in latere descendēt tabule amplitudinē ortus quā querēbas. meridiana quidē si p̄ctus datus ab equatore ad austrū celi regione declinet. Septentrionalis autē si ad aquilonē vergat. Molem p̄lecto te igno: rare: q̄ amplitudo occasus cūctisq̄ puncti celi tū equat amplitudinē ortus sui: 7. ad eandem horizonis partem ad quā ipsa amplitudo ortus perpendi debet. Amplitudinē aut ortus (si forte oblitus es) voco arcū horizonis circulo equale: enī ad puncto orientē interclusum. Similiter amplitudo occasus si per puncto bonis tū que inter equatōr ac punctum occidētē clauditur. Jam exemplari numero rem planius accipies. Glosare quantam ortus amplitudinē habeat finis quidē eius gradus areatū in regione latitudinis 48. g. obtinere. Declinationē p̄cti dāti est g. 5. m. 55. secūdo. 25. Cōplēmētū aut altitudinis polaris: sue latitudinis regionis est g. 42. m. 0. Cum quo quidē cōplēmētū 7. declinatione memorata areatū ingredietur mihi fin p̄ceptū offeret amplitudo ortus quēsit octo gradū. 7. 52. minutiorū: septentrionalia quidē: punctus ecliptice datus partem signiferi borealem possidet.

### Problemata Undecimū.

**E**x amplitudine ortus suppositi et punctū ecliptice cui ipsa debetur agnoscere. Intra lateraliter cum cōplēmētū altitudinis polaris 7. ipsa ortus amplitudine. angulus enī cōmuni declinationē puncti quēsit manifestabit. Unde 7. per tertium problemata punctū ipsum de p̄bendendi dabitur potestas. Vnde si tamē epos tēbit: dno 7. ecliptice punctum in eadē par allelo existibus eandem esse potius ortum amplitudinē. si cū etiam vniuersi puncti orti solis: equalisq̄ habebit huius declinationes: ortus amplitudinis debent eāles: quos nonnunq̄ aliter aut aliter denominat. Et nec puncto ecliptice inueniādo p̄bēbit iter. Si enī amplitudo ortus meridiana fuerit: punctū quoq̄ ecliptice cū ipsa respōdat: in parte meridiana 7. periri necesse est. Amplitudo aut ortus septentrionalia p̄ctū ecliptice



ex boreali fuisse tribuatur. In horizonte autē recto sicut noster polus elucatur: ita amplitudo ortus cumlibet puncti a sua non differt de declinatione. Sed vide nequam illud arca a quopiam infirmitate proponētī amplitudine ortus nulli puncto de clyptice accidēt: verū cūda aliū puncto celi signis semitā decenter. Alii autē ludibrio precatores: si per amplitudine ortus datā veluti paulo ante monuimus declinatio innotuit. Ea enim maximā solis obliquationē transgrediat: nullus de clyptice punctum datam ortus amplitudine suscipiet. Si vero memoratam solis maximā declinationē nō superauerit: est inuenire punctum de clyptice iuxta traditionē superiorem cui talis debetur ortus amplitudo. ¶ In exemplo res apparēbit facilius. Sit amplitudo ortus propolita. 2.1. gradū 2. 31. minutū: semita superiorū regionis latitudine. Intra bō tabulam lateraliter cū dicta ortus amplitudine et complemento latitudinis regionis id est 42. gradū. menibus declinationē gra. 14. m. 12. secūdo. 2.1. Alii deinceps puncti de clyptice respōdēt per tertium Problema eliciant. Illud autē prope erit aut finis octauū gradus tantū: aut viginti secūdi leonia: aut octauū gradus scōpū: aut viginti secūdi aqnari. Id cognita igitur quarta de clyptice punctū datum continēte: quā rem eoberere oportet suppositioni problemata: nihil est quod impediētiariū te latere poterit. Ceterum si ex amplitudine ortus datā latitudine regionis elucere velis: ne propriū et paulo poliarius problema fiat: cognita de declinatione ad eam amplitudine spectante intra ortus arcum cum ipsa amplitudine ortus ac memorata de declinatione. Nam quod in latere de cēdētū vi aliolet colligitur: quadrā circuli ablatā relinquit latitudinē regionis quēsitam. Cuius rei exemplum calculum ad necere superius cācū videtur: cum nihil prius difficultatis pter alia diuifemodi propolita continet.

### Problemata Duodecimū.

**I**n omni regione arcum diurnū puncti de clyptice quocūqz dederis numerare. ¶ Intra arcum complementis declinationis videlicet ipsi puncti et amplitudinis eius ortus habebis enim in latere tabule de cēdētū arcum minimum quēsitum: si punctus ille diuisum de clyptice meridiana possidet. Si autē in septentrionaria fuerit: arcum hoc pacto cēdētū et semicircūferentiā minime a cūqz enim magnitudinē arcus semidiurni representabit. Eo demum arcu semidiurno duplicato diurnū arcum totū agnosces. Et autē duo capita arcti: et libe in omni regione pterēqz sub polis arcus diurnos habebat semicirculares: nemine ignota res arbitramur. quare per tabulam hāc illud inueigari nō oportebit. Illos quoque non est obliuione ptercūdum: quod differētia arcus semidiurni cūqz puncto de clyptice respōdēt et semidiurni equinoctialis: qui scilicet nonaginta gradus de clyptice semper est equalis imo eadem differētia ascensionali ad idem punctum attinet. Vocatur autē differētia ascensionalis arcus equatoris quo differunt due ascensionē: recta videlicet et obliqua eidem puncto de clyptice seruientes. ¶ Idēdictū exemplar: suppositū talis est. In latitudine. 48. graduum queratur arcus semidiurnus ad finem quintidecimi gradus arcus. Cuius declinatio est gra. 5. m. 55. secūdo. 25. Idem declinatio complementū est gra. 84. m. 4. secūdo. 35. Idē amplitudo ortus eius per decimū punctum erat gra. 8

mi. 52. Cuius complementū gra. 81. m. 8. Idē duo cōplemēta iuxta arcum in tabulam: colligo fm pceptū generale arcum gra. 83. m. 24. Cuius deinceps minus et dimidio circulo quoniam punctus datus in parte boreali existit. relinquitur: arcus semidiurnus gra. 56. m. 34. Quod duplicato cōcēdit arcus diurnus gra. 113. m. 12. Idemsemodi autē arcus primū per tabulam ereptus est semidiurnus ad quintidecimi libe ac quintum de cūqz piscum. quoniam illud duo gradus dimidi de clyptice meridiana possidet. Idēterra si eundem arcum ex no magis gradibus ab huius: relinquit differētia ascensionis gra. 4. m. 16. quintodecimo gradus arcus attinet. Que etiā est differētia ascensionalis ad reliqua tria puncta spectas: quoque vniquodque quidē gradibus ab altera sectionē de clyptice et equatoris remouet. Quicquid autē in hoc problemate de punctis de clyptice percipitur: aliis quoque celi punctis vniuersis quēque ostendit: et occidēt: adaptare licebit: modo declinationis quoque pter noscā. quoniam ne minima quidē in filo imputatōis diuersitas inuenietur.

### Problemata. xliij.

**N**ob pcedēs de pūctis de clyptice pollicet alia ratione scrutari.

¶ Inmenēdus primo est arcus semidiurni minimus: iuxta videlicet capitoliū rēponens et pcedenti. Idē demū ex quadrante id est semidiurno equinoctiali demēdus est: et habebat cōp differētia. Que quidē differētia ceteris de clyptice punctis omnibus in tra regione scruiet hoc pacto. Intra latera iter cum a sectionē recta arcus de clyptice inter punctū propoliti et pōrimū si punctum equinoctiale complebent: cum pteritā differētia semidiurni minimi et semidiurni equinoctialis. angulus enim cōmuni pcedebit differētiā semidiurni quēsitū et semidiurni equinoctialis. Quam differētiā ex quadrā circuli tollas: si punctum datum in demidia de clyptice austrina fuerit. aut eadem supertrahas: si partem de clyptice aequinā possidet. sic enim arcus pcedit semidiurnus. Cuius duplicatam pro arcu ipso diurno tendis. Et arcus autē diurni tempus quoque diurnū addices: si pro quindē gradibus in ore peruulgato boreas singulas equales numerabis. Idēne et arcum nocturnū et tempus ipsum nocturnū facile concludes. Quod si arcū semidiurni in fer equas partes distibueris: quantitatē boree inaequalis diurne videbis. Cuius et triginta deinceps gradibus ablata: partes boree notatū remanebunt. Idē duplicata differētia semidiurni tui et semidiurni equinoctialis in fer equas portiones scietur: vnam autem a quindē gradibus demptis pro austrino de clyptice semicirculo. aut eisdē aduancis pro reliquo semicirculo boreali. Numerum autē quēlibet gradū et minutū per scāritū diuidere poteris: bēnt hoc modo. Idē multiplicā ipsum per decē minuta: id est ppreone singulas numeris cōtra singulas. Cuius et gradibus minutis primas: et minūqz pīmis secundas: et ita et cetera ceteras suo ordine nasci oportebit. Redintegratis igitur ut assolēt fractionibus habebis summā multiplicationis quam petebas. Idē vero in regione cui polus quinqz et quadraginta gradibus supra boreem extollitur: differētiā semidiurni cuius libet ac semidiurni equinoctialis ceteris inuenies: si in tra bā tabulam arcum cum declinatione puncti propoliti et complemento eiusdē declinationis habebis enim et de recto puncti arcus in latere de cēdētū differētiā

quæsitam. Cum qua deinceps ut antea procedendū crī.  
 Et dūcitur exemplum tale accommodabit. Et dūcitur volo dif-  
 ferentiam ascensionalem ad 12 gradus geminorū in re-  
 gione bābentē latitudinē 48 gradū. Inuenio positū ar-  
 cum semidūmū minimū ex pcedenti g. 61. m. 7. Quod  
 dempto ex nonaginta gradibus relinquitur g. 28. m. 59.  
 Et tāta est differentia semidūmū equinoctialis et semidūmū  
 in minimū: id est differentia ascensionalis maxima ad eclyp-  
 ticam spectatā. Eam itaq; cum g. 70. m. 29. ascensione  
 sollicita recta duodecimi gradibus geminorū mitto lateraliter  
 in tabulam: et exipio differentia ascensionalem g. 27.  
 m. 5. Et dūcitur dicta gradibus nonaginta: arcum semidūmū  
 num quæsitum conflat gra. 17. m. 5. Et am ad latitu-  
 dinem 45 graduum numerabo differentiam ascensionalem  
 viginē gradibus tauri debitam (cetera enim que in  
 medio tradita sunt exemplari supputatione non egent)  
 Deductio puncti claudēti viginē tauri gradum est  
 g. 17. m. 47. scilicet 9. cum complementū g. 72. m. 12. scilicet 51.  
 Illa itaq; duobus numeris affectis in tabulam multo  
 elicio differentia ascensionale quæsitā gra. 8. m. 4. Quod  
 deinceps vti poterō ad noticiā arcus semidūmū. quan-  
 tit itaq; bene tēporalia: quædammodū antea monstrū est.

### Problema xliij.

**S**i die longissimā in regione quāpiā  
 cognoueris: quo pacto latitu-  
 dinem eius inuenias edocere.

Quod per longissimā pollicemur diem pa-  
 ri ratione per breuissimū efficiem: cum in hoc opere dif-  
 ferentia diei equinoctialis et diei longissime rem ipsam  
 plerūq; absolutat. Quamvis aut equinoctialis dies vincit  
 tauri die solstitiali: tantū t ipsa latine vincit brumalem.  
 Quod uicemmodi itaq; diei quæcūque et diei longissimū  
 differentiam dimidiatā in arcum parallēli sibi debitu cō-  
 teret: singula bona equalibus quindenorū ut affeiet tri-  
 buēdo gradus. Eōrum deinde gradū complementum  
 cum completō maxime obliuationis solaris latera-  
 liter in tabulam ducto. nam quod in area contrahitur: ex  
 qua dūcitur sumētū relinquet amplitudinē ortus solstitialis  
 aut brumalis. Hinc rursus cum maxima solis declina-  
 tione in tabulam arcatim nulla eritabit in latere deſe-  
 denti inclinationē circuli equinoctialis ad horizonē re-  
 gionis tūc. Eam itaq; aufer ex nonaginta gradib; ut re-  
 maneat latitudo regionis quæſita. Quā longitudo diei cu-  
 iusq; data fuerit: sole a quattuor cardinalibus remotor:  
 bāud officinū perſeſca eleuationem poli vſuſi: ſi nō  
 quādam aciem obliuationēſed quantū ſol ex ſitu ſuo  
 nūſciſi in vſum accipies. Et dūcitur autē pceptū tenor  
 numerorū ſerie declarabit in hunc modū. Offerat mihi  
 quæſitā longiſſime diei ſpacū quādecim horarū equaliſ:  
 pofſet qſ ſibi reddi latitudinē regionis: vbi tāta dies ac-  
 cidit. Dies poſtea ſuperat diem equinoctialem tribus  
 bonis qſlib; Quādo dimidiū id eſt vni bore cū triginta  
 minutis deſcet arcus parallēli g. 22. m. 10. Et ſuo itaq; cō-  
 plementū g. 67. m. 10 cū cōplemento in azime declinati-  
 nis ſolaris gra. 66. m. 10 lateraliter in tabulam dūcēdo  
 exipio g. 57. m. 54. Cum arcus complementū g. 12. m. 6  
 declarat amplitudinem ortus ſolſtitialis. Quam rursus  
 cū maxima declinatione ſolaris arcum in tabulā mittē  
 t: mihi offeretur eleuatio equinoctialis circuli g. 48. m. 16.  
 Et a dempto ex nonaginta gradib; abſtata relinquit lati-  
 tudinem regionis quæſitam gra. 41. m. 22.

### Problema xvj.

**L**ibet arcus eclyptice a sec-  
 tione vernali incipiens ascen-  
 sionem obliquam in regione  
 quacūq; dimitiri.

Animaduertitur quod est pū-  
 etiam terminale huiusmodi arcus. quod si fuerit cōma-  
 ne equatorū et eclyptice: necesse est arcum eclyptice fuisse  
 semicircumferentiam: et ascendere cum dimidio equino-  
 ctiali circulo. Si vō fuerit aliud quodcūq; reperitendū  
 est differentia ascensionalis tali puncto debita: ex altero  
 superioꝝ problematū. Quam differentia demē ex ascen-  
 sione recta p̄positū arcus: si punctū eius terminale in  
 dimidia eclyptica boreali reperitū fuerit. Hic et idē adū-  
 ge. si in parte austrina critterit. Abobis enī ſue ex ſub-  
 tractione reliquæſue ex additione collectā ascensionem  
 obliquā arcus tui. Poteris itaq; ſi libet in quacūq; re-  
 gione tabulam aſcenſionū obliquarū itaq; tabulam par-  
 tium horarum temporalū: et demū tabulam equandarū  
 domorū ſim modū vulgātū de nouo cōdēre: nulli ingenio  
 penitus rudi fuerit. Quod arcus eclyptice non a ſeſione  
 vernali ſed aliunde ſumētū mittimū aſcenſionē obliquā  
 addiſcere velis: cum ipſe ipſe differentia ductū arcum a  
 ſeſione inchoatōꝝ: ſi vſuſq; eorū aſcenſionē obliquā  
 modo p̄dicto didiceris: alteraq; ex altera dempſeris:  
 quod relinquet aſcenſionē obliquā notificabit quæſitā.  
 Et exempli gra. Volo computare aſcenſionē obliquā ad  
 duodecim gradum geminorū in latitudine 48 gradū.  
 Aſcenſio eius recta a ſeſione vernali ſumēta habet  
 g. 70. m. 29. Ex qua ſummo differentia aſcenſionalē cō-  
 debit am gra. 27. m. 5. relinquitur gra. 41. m. 24. Tandē itaq;  
 enūcio aſcenſionē obliquā arcui p̄poſito reſpondētē  
 Eandem quoq; differentia aſcenſionalē ſi adduxeris  
 aſcenſionē recte duodecim gradus ſagittarū: que eſt g.  
 250. m. 29. conſeſcet aſcenſio obliqua eiudem g. 277. m. 14.  
 In hunc itaq; modū poteris componere tabulam aſcen-  
 ſionū obliquarū ad quacūq; datæ latitudines. Ut q;  
 multæ vtrūq; hic opus eſſe reor: cum res ipſa ſit ſaciliſ  
 admodū: cognitū modo differentia aſcenſionalibus ad  
 vniū quadrantē eclyptice ſpectantibus. nam ille cetera  
 quoq; quartis accommodabimū: quemadmodū in abbre-  
 uiato almageſti tradidimū.

### Problema xvj.

**I**n omni regione ex data ascen-  
 sione obliqua ab altera sec-  
 tione inchoata arcum eclyptice  
 sibi debitum inuestigare.

Si habes tabulam aſcenſionū obliquarū ad eam regio-  
 nem quam aſſumis: facile p̄poſitum abſolues. Si autē  
 tabulā huiusmodi apud te non eſt: neq; nouam fabrica-  
 ri ſuſat: hoc pacto p̄cedet. Aſcenſionē obliquā p̄poſi-  
 ſitam perinde quaſi rectam conſtitue: arcum eclyptice  
 et debitum ex antedictis ad aſtutē diſſica. Hoc tamē  
 attēdo: q; ab eadem ſeſione vernali ſolice vel autumnā  
 li vtręq; aſcenſiones eroditū ſunt. Puncti enim ter-  
 minatū hunc arcum eclyptice declinationē addice. Jte

puncti cuiusmodi distantia a prima sibi sectione arcibus  
questione et in sphaera recta consideranda. Cui  
illa itaqz duobz arcibus intra tabulam arcuum: 3. numeri  
reperiuntur in latere sphaerae sibi punctus terminalis praedictus  
fuerit in medietate celyptice descendenti: que videlicet  
a capite incipiens ad caput coniuncti per lineam tendendo  
desinit. Aut numeri reperiuntur et simpliciter alio modo: si fue-  
rit in reliqua celyptice in medietate. Quodqz bac via offen-  
ditur. Inuentum primum vocabitur. Deinde intra tabulam la-  
ter alter cum altitudine poli et declinatione puncti ter-  
minalis superius memorati. quodqz in angulo communi  
occurrit inuentum secundum appellatur. Quod si intra ta-  
bulam arcuum cum complemento huius inuenti secundum  
et complemento altitudinis poli. quodqz in latere descen-  
denti colligitur inuentum tertium vocabitur. Quod ubi ex  
inuento primo ab aliter sita. cum residuo 7. complemento  
inuenti secundum tabulam lateralem ingrediatur. quodqz  
reperiatur in angulo communi dicitur et nonaginta gradibus  
Cum reliquo aut in ipso inuento secundo intra tabulam  
arcuum: arcusqz in latere descendenti oblatum illi arcui  
celyptice quem in principio huius operis per a sectione  
posita tanqz rectam clausula apponere sibi punctus ter-  
minalis praedictus in dimidia celyptice ascendenti fuerit.  
aut ab eodem subter ab sita in reliqua id est descendenti ter-  
ritur. Quod ubi est sita p adinonem sive p subtractionem  
fieri res ipsa distat quem querebas arcum celyptice.  
Opus istud reuera publicum est. quia prolium. id est  
tamen prolium a est in vincto quodam casu tabula no-  
nam ascensionis obliqua componere: ut per eam ascen-  
sioni oblique date arcui celyptice obitum possit agnos-  
cere. Illud aut aduertendum operatione huiusmodi ser-  
uire dumtaxat regionibus quarum latitudinis maxima so-  
lis declinatione fit ascendunt. In ceteris eni habitatio-  
nibus alia quibusdam causis obstat opus est. quas imper-  
fecti arum silentio praeterire decernimus: cum per ar-  
um vsum veniant. Et si veniant et secundo abbreviati no-  
siri viro docto satis patebit. Et si lubet videre ereptum  
praedictum accipe tale. Detur inibi ascensio obliqua gra-  
3. 32. m. 38. cum quantus celyptice arcus ascendat in re-  
gione habente latitudinem 48. gradus sit explorandum.  
Duc ascensionem tanqz recte constitute respondeat quin-  
tuus et viginti quatuor gradibus. cuius finis a sectione au-  
tumali distat 55. gradibus. Cui quidem 55. gradus ele-  
uantur in sphaera recta cum gra. 52. m. 38. equatoris. Intro-  
it igit gra. 55. 7. gra. 52. m. 38. arcum in tabulam. nume-  
ruiqz finitioris praedicti clauo gra. 76. m. 9. quem voco  
inuentum primum: quoniam punctus celyptice claudens vi-  
ginti quatuor gradibus est in dimidia celyptice de-  
scendenti. Deinde intro lateralem cum altitudine poli  
gra. 48. 7. declinatione praedicti puncti celyptice: que est  
gra. 19. m. 3. secundum 74. 7. elicio inuentum secundum gra-  
14. m. 3. huius inuenti secundum complementum est gra. 5.  
m. 57. cum quo 7. complemento altitudinis poli id est gra.  
42. intro tabulam arcuum: numeruiqz gra. 43. m. 17. bac  
via occurrente vocabo inuentum tertium. Quo dempto ex  
inuento primo reliquitur numerus gra. 12. m. 2. 3. qui  
cum complemento inuenti secundum lateralem tabule  
inmisit reperiatur ut affolet gra. 11. m. 18. Hunc nume-  
rum et nonaginta auctore: 7. restant gra. 58. m. 42. Quem  
residuum numerum cum ipso inuento secundo arcum ta-  
bulam ingro: reperiatur arcum gra. 16. m. 30. cum mino-  
re 25. gradibus scopit: 7. reliquitur gra. 8. m. 30. et id est  
significat videlicet ascensio obliqua praeposita respon-  
det. Illis est operatio ad quodqz punctum signatur in  
quarta celyptice autumali: que videlicet ab initio libe-  
risqz ab capite capite coniuncti protenditur. De puncto ante  
reliqui arum quartum et si paulo aliter agendum est:  
id tamen non nisi in additionibus 7. subtractionibus au-

mentum quemadmodum praecipitur evenire solet. Quam  
obrem alia noua exemplari supputatione opus esse no-  
n arbitror.

## Problema xviij.

**A**ltitudinem solis supra horizon-  
tem existens in omni regione  
omniqz hora perpendere.

Ad hoc praepositum veniunt distanti a solis a  
meridiano. Que aut erit quadrans ad vngue: cui debet  
tur sex bore equalis. aut maior eo: aut minor. Si distan-  
tia a meridiano fuerit quadrans circuli: intra lateralem cu  
elevatione poli 7. declinatione solis. videbitur in angulo  
communi altitudinis solis quaerita. Si aut memorata dis-  
stantia quadrans superaverit: eam ex dimidio circulo  
minue: cum residuo 7. complemento altitudinis poli  
intra tabulam lateralem. Quod aut in angulo communi  
offendat: ex quadrante aufer: 7. residuo vocabit inuentum  
primum. Cui quo demit inuento primo a latitudine regio-  
nis intra tabulam arcuum: 7. ex eo quod in latere descen-  
denti occurrit et complemento declinationis solaris. abnece  
reliquitur inuentum secundum vocato. Cum duobus itaqz  
inuentis primo saltem 7. secundo tabulam ingrediatur la-  
teralem. reperiatur in angulo communi altitudinis so-  
lis quaerita. Quod si distans solis a meridiano minor qua-  
drante erit: intra eam ex 7. complemento altitudinis  
poli lateralem. quodqz in angulo communi accipies: ex  
quadrante circuli minue. residuqz ut antea inuentum pri-  
mum nuncupabis. Quod deinde inuentum cum altitudine  
poli arcum tabule inmisit. 7. complemento eius quod  
in latere descendenti occurrit addidit solis declinationem  
si borealis fuerit. aut abiecit complemento minue decli-  
nationem solis si fuerit meridiana. vel tale complemen-  
tum scilicet sphaera si declinatio solis ipse careat. Quodqz  
aliquo bene tritu modorum vi res erigit occurrunt: non  
fuerit maius quadrante: aut residui eius de semicirculo  
si quadrante superaverit inuentum secundum nuncupabis.  
Hec igit duo inuenta si lateralem tabule inmisit: nec ci-  
pice in angulo communi altitudinis solis quaerita. Verum  
quando inuentum secundum nonaginta praecite graduum  
complectitur: inuentum primum pro altitudine solis tenendo est.  
7. acilius aut multo praefertur crequentis sole equinoctia-  
lem circulum possidere. Intra bis eni lateralem cu duo-  
bus complementis: distans videlicet a meridiano 7. altitu-  
dine poli. Quod eni in angulo communi colliges pro al-  
titudine quaerita accipies. Hoc spectabile praecceptum si  
recte consideres: non parum iustum saltem animus admira-  
beris. Quod namqz in omni regione tabulae altitu-  
dinis solis ad omnes horas conficere poteris: siue a  
meridiano siue ab horisqz borearum computatione feceris.  
A meridiano aut numerandi horas praedictio erit  
compositio. nam primum inuentum ad vna 7. candi boream  
non variabitur: quia loca solis diversitas: idcirco vi-  
rias pleriqz eius declinationes esse contingat. Similiter  
principii scilicet inuentum ad eandem bonam stabile perma-  
nebit. Porro si considerare liceat tabulam altitudinis so-  
laris ad horas ab horisqz numerandas: Assumpta ob  
stantia quacumqz ab horisqz oportebit simul ferri arum  
semidiamum aut semidiamum: ut inde agnoscat distan-  
tia solis a meridiano: que in praesent negotio semper co-  
gnita est necessaria. Quaequid aut de loci monumens  
alio quoqz stilis ac punctis celi quibuslibet accommoda-  
re licebit: modo cognitas habent declinationes. Et in  
exemplo sic accipe. Sit sol in principio geminorum distans

a meridiano .30. gradib<sup>9</sup> parallelū sui. quib<sup>9</sup> tpe respō  
dent sex bore eqles. Utolo ingere altitudinē eius supra  
bōnū pntē cui polus extollit. 48. gradib<sup>9</sup>. Declinatio sol  
est g. 20. m. 12. secundū .6. cū q<sup>9</sup> altitudinē poli memorata  
lateraliter intro tabulā: inuenio q<sup>9</sup> arcū g. 14. m. 52.  
duo esse altitudinē solis quēstā. Et ut rursus cō solis di  
stantia a meridiano .105. gradū. quib<sup>9</sup> septē bore eqles  
debent. Inbtrabo .105. cū .180. relinquitur .75. cū quib<sup>9</sup>  
cōplētō latitudinē regionis solicet g. 4. Intro tabu  
lam lateraliter: in angulo cōmuni exbōnē mibi g. 40.  
m. 15. 76. q<sup>9</sup> muno cō .20. relinquitur altit<sup>9</sup> est g. 49. m. 44.  
74. 4. vocabo inuentū primū. Quod deinceps cū latitu  
dinē regionis g. 48. arcum mitto in tabulā. cū numero  
elictio est g. 77. m. 2. dēmo cōplētū declinatiōis solis  
rursū est g. 69. m. 48. relinquitur aut g. 7. m. 14. vocabo inuentū  
secundū. Et dēmo ita q<sup>9</sup> inueniā primo solicet 7. secūdo  
ingredies tabulā lateraliter: in p<sup>9</sup>ceptū generale in  
uenio g. 3. m. 11. altitudinē sol quēstā. Et 3. an dēmo sol  
babeat distantia a meridiano .60. gradū: quib<sup>9</sup> debent  
quatuor bore eqles. Quēdo elevatiō eius supra bōnū  
est. Intra dō igit tabulā lateraliter est .60. gradū distantia  
a meridiano: 7. 42. gradū cōplētū altitudinis poli  
angulus cōmuni p<sup>9</sup>cedit g. 15. m. 14. 74. 51. 8. m. arcus cō  
plēntū est g. 54. m. 15. secūdo .9. inuentū solicet primū.  
Quod deinceps in q<sup>9</sup> altitudinē poli g. 48. arcum ta  
bulā intro dō collig. g. 65. m. 47. Cū arcus cōplēntū  
est g. 14. m. 1. 8. m. addo declinatiōē solis: quoniam  
septētrionalis est g. 20. m. 12. 7. relinquitur inueniū secundū  
g. 44. m. 25. Illū ergo duo b<sup>9</sup> inueni: lateraliter in tabulā  
missis elicio altitudinē sol quēstā g. 14. m. 46. C. Implū sol  
in capite solitatus babeat distantia a meridiano .75. gra  
dū: quib<sup>9</sup> debent quāq<sup>9</sup> bore eqles. Utolo querere alti  
tudinē eius supra bōnū pntē p<sup>9</sup>memorati. quod inor est  
f. 14. ubi cōplētū latitudinē regionis g. 42. cū cōpla  
meto distantia a meridiano solicet g. 15. lateraliter tabu  
le insinuo. nam in angulo cōmuni offert altitudinē solis  
quēstā notum gradū. m. 58.

| operta<br>30. m. 10 | Distantia<br>Solis a<br>merid. c. | Dist. lat. |
|---------------------|-----------------------------------|------------|
| 24                  | 111                               | 0          |
| 21                  | 98                                | 0          |
| 22                  | 98                                | 0          |
| 21                  | 68                                | 0          |
| 20                  | 51                                | 0          |
| 19                  | 48                                | 0          |
| 18                  | 23                                | 0          |
| 17                  | 9                                 | 0          |
| 16                  | 7                                 | 0          |
| 15                  | 22                                | 0          |
| 14                  | 17                                | 0          |
| 13                  | 52                                | 0          |
| 12                  | 67                                | 0          |
| 11                  | 81                                | 0          |
| 10                  | 97                                | 0          |
| 9                   | 112                               | 0          |
| 8                   | 127                               | 0          |

Et si aut altitudinē sol agno  
scere libeat ad aliquā boreā  
ab occasu solis computatam  
Sic ubi g<sup>9</sup> arc<sup>9</sup> semidiano  
solis .11. gradū. p<sup>9</sup> que arcū  
videlicet sol occidens distat a  
meridiano. Inueniā aut occa  
sus solaris est finis vigesime  
quarte bore. Etiam ubi sub  
tractis .15. gradibus ex dicto  
arcu semidiano relinquitur di  
stantia solis a meridiano .8. 98.  
m. 4. ad finē bore vigesime  
ter. Et quā distantia li iteram  
a diecero .15. gradus vni bore  
equali debitor: relinquet  
distantia solis a meridiano g.  
8. m. 0. ad finem bore vigesi  
me secūdo. Et ita de ceteri: vias  
ad finem bore septimē decime  
que habet distantia solis a  
meridiano occidentalis .8. gra  
dū. Etiam distantia inueni  
et .15. gradū: relinq<sup>9</sup> distan  
tia solis a meridiano orientalis ad finē sedecime bore  
solicet .7. gradū. Deinde p<sup>9</sup> additionē p<sup>9</sup>mus quindeno  
ri gradū percat singule distantie a meridiano ad fi  
nes reliquarū boreā p<sup>9</sup> ordinē quēdamodo in margine  
propinquo perpendere poterit. Et non aliter supposito  
eodem arcu semidiano p<sup>9</sup> subtractionē p<sup>9</sup>mus quindeno  
ri gradū habebō distantias solis a merid. ad fi

nes borearum ab orto solari computatā. Ut r<sup>9</sup> nume  
ras qui antebac bore vigesime tertie tribuētur: iam ad  
boreā primā spectabūt. Et qui tunc bore vigesime  
decimē bore secundā. Hic ita de ceteris suo ordine: bo  
nē ad boreā septimā venerit. Et quidē respondēt distan  
tia sol a meridiano orientalis .8. gradū. Cui cōmpti ex

| num<br>op. 20 | Distantia<br>Solis a<br>merid. | Dist. lat. |
|---------------|--------------------------------|------------|
| 0             | 113                            | 0          |
| 1             | 98                             | 0          |
| 2             | 81                             | 0          |
| 3             | 68                             | 0          |
| 4             | 51                             | 0          |
| 5             | 48                             | 0          |
| 6             | 23                             | 0          |
| 7             | 9                              | 0          |
| 8             | 7                              | 0          |
| 9             | 22                             | 0          |
| 10            | 37                             | 0          |
| 11            | 52                             | 0          |
| 12            | 67                             | 0          |
| 13            | 81                             | 0          |
| 14            | 97                             | 0          |
| 15            | 112                            | 0          |
| 16            | 127                            | 0          |

bac vna sum in sex equas (sinbo potius mēsa: vt erat  
quantitas bore temporalis grad. 18. m. 50. quā seruo pio  
distantia solis a meridiano ad boreā quintā. Duplū autē  
dixit distantie p<sup>9</sup> est grad. 37. m. 40. pio boreā quartā. Tri  
plū eius grad. 56. m. 10. ad boreā tertiam. Quadru  
plū solicet grad. 75. m. 20. ad boreā secundā. Cūtra  
plū aut grad. 94. m. 10. ad boreā primā. Et sunt bore ante  
meridiane. Quaru quatuor cū sua compari possunt meridia  
na cūq<sup>9</sup> soli tribuit altitudinē. Itā sicuti finis bore ferte  
solem ab horione plurimum remouet. ita bore quinta  
quib<sup>9</sup> septima equas solis altitudinē exbōnē. Quare  
aut 7. octave borearum finis solem ineq<sup>9</sup>aliter ab bore  
sonit remoueri non sūnt. Itā d<sup>9</sup> diffimile d<sup>9</sup> cuiq<sup>9</sup> pas  
sionem soli accideret necesse est ad fines reliquarū bo  
rearum pariliū. Cognosce ergo distantias solarib<sup>9</sup> a me  
ridiano (si veritas supputationis superius expositē fe  
ctatus fueris) voluntati et tuam proculdubio tranqui  
lam reboce.

### Problemata xvij.

**S**ole in aliquo signorum boreā  
lium existente altitudinē eius  
in circulo verticali explorare.

Et circuli verticalē diffinimus cum qui per  
verticē capitis productus ab oriente equinoctiale atq<sup>9</sup>  
occidente vtriq<sup>9</sup> extenditur. Et si autē cuius equinoctiale  
ubi bouzon 7. equinoctialē circulus coeunt in parte orie  
tis a quouibet amplitudo ortus numerari solet. De  
cibus vo quodamētalē per diametru et oppositū. vnde  
et amplitudo occasus illius sunt. Intra igit arcum  
cum altitudinē poli 7. solis declinatiōē boreali. Itā  
quod ex dicto numeri arcus in latere descendentē repe  
ritur altitudinē p<sup>9</sup>cedēt quēstā. Et exemplatē autē

Ac intelligea. Volo scire butusemodi altitudinis solis i  
principio geminos existerent ad latitudinem 49 graduum.  
Declinatio solis est 5.20.11.2. cum qua latitudinem re  
gionis ingredior tabulam areatin: inueniuntur fm piceo  
ptum generale altitudinis solis quæstam 5.27.16.41.

si. 30. ar quadratæ est celi novaginta gradibus minuitur  
relinquatur arcus quæstus gra. 5.21.21.

Problemata 20 et 21

Problemata 20 et 21

**I**nstantiam solis horizontalem  
a circulo verticali cognoscere.

Idiusmodi distat am plerique vocat ara  
tico nomine assumit. Est aut arcus bouybet  
interclusus duobus circulis magnis p vertice  
appet: ceteris: quæp alter quide per ortum equinoctiale  
et occidens inclinat: qui antea circulum verticale agno  
minimus: alter aut globum solare fecit per mediet. In d  
nulli demq distantiæ eadem ad meridiani veris referit  
Et hæc res ppositio nrisi basid quaquæ intertribatur:  
et meridianus circulo verticali ad rectos modat angu  
los: atq idcirco quatuor quadrantes celi eo intercipiat  
de bouybet. Quæ sit ut cognita aut remotioe solis a  
circulo verticali distantia quæp ab ipso meridiano nō  
agnoscatur. Intra itaq laterale cum complemento de  
clinationis solaria a distantia eius a meridiano. quodq  
in angulo celi occurret seruato. Deinde tabulam areatin  
ingredere celi eo quod seruati ac complemento altitudinis  
solis. quod celi in latere descendenti reperiet: et non agin  
ta gradibus demptis relinquet distantiam horizontalem  
a circulo verticali: qui petebas: meridiani quide scem  
pum sol per signa astræ dembulat. borealem aut si in  
superi signis aequinoctialibus: altitudinis p habet a mi  
noris: ea quam circulus verticalis soli crebet. Nam si  
talia altitudo qua vñ sumus in opere pscnti superare  
rit altitudinis solis in circulo verticali distantia scpe me  
morat: a dñice meridiani a dno minuitur: tamet si scierit  
curvæ eclipse pceptum arætin solari lumine illuisti et  
Et si altitudo solis ad opus pscntis ex ceta altitudinis  
eius in circulo verticali distantia id est ead facit: nulla  
erit bouybetis distantia a circulo verticali. Altitudi  
nem aut solis in circulo verticali pcedena pblemata  
notam reddidit. Quam sole equinoctialcm possidente  
circulum lōge facilius bouybetis comparabimus dis  
tantiā. Intra ibimus eni tabulam areatin cum comple  
mento altitudinis solaria a distantia a meridianis: quodq  
in latere descendenti a dnoctio numeri arcu illa reperietur  
et non agin ta gradibus decessum relinquet distantiā hori  
zontalem quæstam. Quæ notis aut meridiani ipsam sol  
eclipsam parit: arcus talis non agin ta gradibus complecti  
tur. Et celi meridiani distantiam solis a meridianis qua vñ  
itur in absolute problematis nō per eclipse: verū  
per equinoctialem aut et equidistat circuli sume opo  
tere: eam scilicet q singulis horis equalibus quindenos  
relatib gradibus. Idcirco quæstus ad solem hacten  
relata sunt: alia quop scilicet a celi pscnti quibilibet  
accommodare licet: modo nō ignorent que ad introitu  
tabule sunt necessaria. Et in exiplo sit ut piz sol in prin  
cipio geminos a meridianis remotus ad occidens gradu  
bus censetur: qui debentur duobus quatuor equalibus:  
atq idcirco in latitudine 49.9. admi tunc supra bouybe  
con electur gradibus 44.7. minutis 46. Intra laterali  
ter cum 5.20.11.2. id est complemento declinationis solaris  
7.60. gradibus distantia a meridianis. numeratunq  
duc via reperiunt 5.54.11.22. cum complemento altitudi  
nis solaria 5.55.11.14. areatin in tabulam intro: i. ma  
merum latere descendente vñ afficit occurrente 5.41.

**I**ngulū ex coincidentia eclipse  
ce et meridiani qui apud quod  
libet ipsius eclipse pscntum  
provenit inuestigare.

Idiusmodi distat am plerique vocat ara  
tico nomine assumit. Est aut arcus bouybet  
interclusus duobus circulis magnis p vertice  
appet: ceteris: quæp alter quide per ortum equinoctiale  
et occidens inclinat: qui antea circulum verticale agno  
minimus: alter aut globum solare fecit per mediet. In d  
nulli demq distantiæ eadem ad meridiani veris referit  
Et hæc res ppositio nrisi basid quaquæ intertribatur:  
et meridianus circulo verticali ad rectos modat angu  
los: atq idcirco quatuor quadrantes celi eo intercipiat  
de bouybet. Quæ sit ut cognita aut remotioe solis a  
circulo verticali distantia quæp ab ipso meridiano nō  
agnoscatur. Intra itaq laterale cum complemento de  
clinationis solaria a distantia eius a meridiano. quodq  
in angulo celi occurret seruato. Deinde tabulam areatin  
ingredere celi eo quod seruati ac complemento altitudinis  
solis. quod celi in latere descendenti reperiet: et non agin  
ta gradibus demptis relinquet distantiam horizontalem  
a circulo verticali: qui petebas: meridiani quide scem  
pum sol per signa astræ dembulat. borealem aut si in  
superi signis aequinoctialibus: altitudinis p habet a mi  
noris: ea quam circulus verticalis soli crebet. Nam si  
talia altitudo qua vñ sumus in opere pscnti superare  
rit altitudinis solis in circulo verticali distantia scpe me  
morat: a dñice meridiani a dno minuitur: tamet si scierit  
curvæ eclipse pceptum arætin solari lumine illuisti et  
Et si altitudo solis ad opus pscntis ex ceta altitudinis  
eius in circulo verticali distantia id est ead facit: nulla  
erit bouybetis distantia a circulo verticali. Altitudi  
nem aut solis in circulo verticali pcedena pblemata  
notam reddidit. Quam sole equinoctialcm possidente  
circulum lōge facilius bouybetis comparabimus dis  
tantiā. Intra ibimus eni tabulam areatin cum comple  
mento altitudinis solaria a distantia a meridianis: quodq  
in latere descendenti a dnoctio numeri arcu illa reperietur  
et non agin ta gradibus decessum relinquet distantiā hori  
zontalem quæstam. Quæ notis aut meridiani ipsam sol  
eclipsam parit: arcus talis non agin ta gradibus complecti  
tur. Et celi meridiani distantiam solis a meridianis qua vñ  
itur in absolute problematis nō per eclipse: verū  
per equinoctialem aut et equidistat circuli sume opo  
tere: eam scilicet q singulis horis equalibus quindenos  
relatib gradibus. Idcirco quæstus ad solem hacten  
relata sunt: alia quop scilicet a celi pscnti quibilibet  
accommodare licet: modo nō ignorent que ad introitu  
tabule sunt necessaria. Et in exiplo sit ut piz sol in prin  
cipio geminos a meridianis remotus ad occidens gradu  
bus censetur: qui debentur duobus quatuor equalibus:  
atq idcirco in latitudine 49.9. admi tunc supra bouybe  
con electur gradibus 44.7. minutis 46. Intra laterali  
ter cum 5.20.11.2. id est complemento declinationis solaris  
7.60. gradibus distantia a meridianis. numeratunq  
duc via reperiunt 5.54.11.22. cum complemento altitudi  
nis solaria 5.55.11.14. areatin in tabulam intro: i. ma  
merum latere descendente vñ afficit occurrente 5.41.

Problemata 20 et 21

**I**ngulū ex eodursu eclipse et  
horizontis percarti inbagare.

Intra areatin cum complemento declina  
tionis puncti ppositi declinationis poli do  
realis in tua regione habebis: cni in latere de  
scendenti numerū quendam qui vbiat angulo meridiani  
et eclipse apud punctū ppositū criffente relictus fue  
rit: quæstus anguli quæstus relinquet. Ipod sectionem  
autē versalem si maximā solis declinationem et comple  
mento altitudinis poli demptis: aut ead adnotatam  
apud punctum autumalem cni angulū quæstus anguli quæstus  
apud illū pscnti aucupaberis. Idcirco quæstus referat tunc

3. In partem boreionem orientalem. num in borei fonte occidat si borealem modi anguli inuestigare libeat. pascendum est: quod tales anguli apud puncta clyptice per borei mitti possunt. pascendum est: quod si alter quid in oriente; alter autem in occidentem ceteris teporibus instanti sunt duo bona rectis equipollent autem. Quamobrem petiti borealem modi anguli occidentalem querendus est. angulus qui accidit in puncto apud oppositum in oriente. Item si sub tractus a duobus rectis id est 180 gradibus relinquitur angulus quiescit in occidentem. Utrum si libeat ex hac tabula angulum talem qui in occidentem addidit ceteris a aream cum altitudine poli et complemento declinationis puncti dati. quod in latere declinationis reperies. adde angulo meridiani et clyptice apud idem punctum. pascendum est. ut ceteris huiusmodi angulis quiescit. Item apud punctum equinoctii vernalis quid poli elevatione in tua regione qua trahi adiungas: et ex collecto matutini solis declinatione auferas. Apud punctum vero equinoctii autumnalis eandem matutini solis declinatione ipsi collecto adiacies: pascendum est. angulus quem querebas in occidentem. Item denique borealem modi anguli boreionem et clyptice in oriente pascendum est. ut ceteris huiusmodi angulis quiescit. Item si libeat latenter cum complemento altitudinis meridiane medi celi supradictam: et angulo quem continet meridiana medi celi supradictam: et angulo quem continet meridiana medi celi clyptice apud tale medium celi non fuerit maior recto id est nonaginta gradibus. Aut cum eius residuo de semicirculo si rectum superauerit. numerus cum quo dabitur. arca tabule ex quadra circuli demptus relinquitur quantitas anguli quiescit. Item si negotio exempli accipere. Libeat supputare angulum orientalem borealem modi apud terminum non gradus tantum ac cidentem in ea regione ubi polus septentrionalis 48 gradibus extollitur. Declinatione aequilonis memorati termini est gra. 14. m. 12. Cuius complementum gra. 75. m. 28. Duo ita in numero gra. 75. m. 28. et gra. 48. initio aream in tabulam quem admodum precipitur. numerus elictum est gra. 50. m. 9. Demo et angulo meridiani et clyptice superprime inuenio gra. 71. m. 21. ut relinquitur angulus quiescit gra. 21. m. 12. Et 42. aut gradibus id est complemento elevationis polaris duo tales anguli apud initia ariens et libe nascuntur. Illi quidem vernalis gra. 18. m. 10. per ademptionem declinationis solaris maris. Item aut gra. 65. m. 30. per additionem eiusdem maris declinationis. Item denique angulus est apud nonum scopum gradum occidentem exempli gratia queratur. Angulus primus elictum gra. 21. m. 12. qui videlicet ad nonum tantum orientis: gradus spectat demo et 180 gradibus: quod uno recti anguli complementum: et residuum gra. 158. m. 48. Mot numerus ille gra. 50. m. 9. ex tabula per arealem introitu ante ad nonum tantum gradus deprimimus: qui ad nonum quod scopum gradum spectat propter equales hic et ibi declinationes ad unum dabit gra. 108. m. 39. angulo scilicet meridiani et clyptice apud nonum scopum. Item cum consuevis gra. 158. m. 48. magnitudinem anguli quiescit.

### Problema xxiij.

**Quantitatem anguli ex clyptice et circulo altitudinis prouenientis addiscere.**

Ad hoc negotium necessarius est ea distantia puncti dati a meridiano: que per equinoctialem aut ei equidistantem circulum in quo est punctus datus perpendicularis pro singulis bonis equalibus quandoque accipiendo gra-

dos. Intra it: quod lateraliter cui tali distantia puncti dati a meridiano: huius puncti terra tunc sub terra: ea videlicet distantia que non creditur quadrare altitudinis: cum complemento altitudinis poli. quod quod in angulo communi occurrerit cum complemento altitudinis puncti dati aream demum tabule immittas. habebis enim in latere declinationis angulum quemdam circulo altitudinis et circulo per polos mundi et punctum datum incidentem contentum. Item igitur angulum adiunge angulo meridiani et clyptice apud idem punctum prouenientem punctus ille de quo agitur ante meridiana sita fuerit. aut minus eo si meridiana transierit. habebis enim vel addendo vel subtrahendo prout res ipsa postulat angulum quiescit. Facilliter ita quod bis que commemoramus tabulas angulorum in omnibus regionibus consuevis. Item oportet bis pro uno et eadem distantia a meridiano nisi tenet. intra arca tabula lateraliter pro primo videlicet puncto: angulus compleri: talia puncta fuerint assignata. De his tamen partibus tabularum compolitio: nonne paulo li. denique cuiusque videtur: sermone sine facit. Item etiam pluri supputatione rem intellectus functionem reddimus. In latitudine 48 gradibus ponatur initium signi geminorum ante meridiana per quattuor bonas equales. quibus de equatore aut parallelis debent ferre gradus seraginta. Complementum latitudinis regionis est gra. 41. Elevatione autem principis geminorum supra boreionem est gra. 14. m. 46. Cuius complementum gra. 75. m. 14. Duobus ita in numero gra. 60. et gra. 42. lateraliter in tabula missis eripitur m area vel abolet gra. 15. m. 25. Cuius dem complementum cum complemento elevationis id est gra. 55. m. 14. arcum in tabulam duco. et iuxta preceptum generale dico gra. 44. m. 52. angulum videlicet quem circulus altitudinis et circulus per polos mundi vadit apud punctum datum complectitur. Item ita quod angulum adiunge angulo meridiani et clyptice iuxta memoratum punctum. per atque qui per problema vigesimum habet gra. 77. m. 46. ut conficiatur angulus quiescit gra. 122. m. 38. quod angulus datus in parte orientali poli tunc est. Qui si occidentem versus tendat: minimi oportet cum numeris quos iam nunc adiungebatur.

### Problema xxiij.

**Ad precedentem pollicetur alter comprehendere.** In hoc opere est necessaria. Que cum sit perculgata purumque: specialis explanatione hoc in loco ideo est. Intra igitur later alter cum comple-

mento altitudinis meridiane puncti clyptice qui in medio est: et cum angulo quem meridiana atque clyptice apud idem punctum ambiunt: si non fuerit maior nonaginta gradibus. Nam si maior inueniatur: co dempto et 180 gradibus: cum reliquo agendum est. Quod in angulo communi offeretur docebit quantum nonaginta gradus ad ascendendum distat a vertice declinationis superioris. Eam itaque distantiam cum complemento altitudinis puncti dati aream in tabulam mittas. quod enim in latere declinationis reperies magnitudinem anguli quiescit manifestabitur: pascendum est. Item meridiana iam transierit. Item si non dum meridiana attingit: quod per tabulam elicitur est et semicirculi numero minus ut relinquitur angulus quem desideramus. Deinde deinceps caute circa negotium perferre exponende est. videlicet dum punctus positiois clyptice orientalis quod in meridiano locat: ad austrum recedit a vertice caput:



et quando punctum huiusmodi ad aequalem vergit  
quid factio opus sit monendi esset nisi ratio operis dis-  
tunderet. Quas quæ et alias iniqui addiderit alibi satis in-  
cubauimus. Et ex his pñdictis. Sicut ut pñt gemi a meri-  
diano remoti oriente vsus pñt quatuor equales partes ab  
aliquo angulo a circulo altitudinis et eclipctica coponen-  
tum. Idem est tunc erit grad. 27. m. 14. pñcti. Cuius  
altitudo meridiana grad. 41. m. 1. Quibus altitudinis co-  
plementum est grad. 48. m. 59. Angulus autem meridiani  
et eclipctice apud tale celi medium per viginti unus  
elicit grad. 44. m. 32. Quæ vna cū elongatione medi celi a ver-  
tice capitum: quæ erat grad. 48. m. 59. mittit lateraliter in ta-  
bulam. sic cui accedit remotio nonagesimi a vertice cap-  
itum grad. 41. m. 14. Et cū altitudo puncti initialis geminop  
est grad. 34. m. 46. Cuius complementum grad. 55. m. 14. cū remotio  
nonagesimi a vertice arcum trāfero in tabula: et li-  
cio fm traditione grad. 57. m. 22. Huius numerum aufero ex  
180. gradibus: quoniam punctus datus quadrante eclipctice  
et orientalis possidet. reliqua ergo numerus grad. 122. m. 38.  
magnitudinis anguli quæritur perualgabit.

### Problema xliij.

**A**ngulum nuperrime tractatū  
alia ratione sciscitari. Cuiusmodi  
medio celi supraterraneo: nūc demū pñcto ori-  
entis aut occidentis. Et si itaq anguli quiti  
varia sit magnitudo fm alii et alii pñcti ppo-  
fin sitū: pñctiendus est punctus eclipctice orientalis  
et instanti quo querit angulus et concurrat eclipctice et cir-  
culi altitudinis pñctus. Cuius inuentio quoniam pñ-  
ta admodum est silentio pñctere consiliū fuit. Intra igit  
arcum cum distantia puncti dati a puncto orientis aut  
occidentis: ea videlicet quæ minor quadra circuli existit  
et cum altitudine eiusdem puncti supra horizonē. nam  
quod in latere descendenti occurrit quantitas anguli  
et eclipctice et horizonis pñctus indicabit. Hunc  
ergo angulum et nonages gradibus demit. cū reliquo  
autē et complemento altitudinis pñcti dati ingrediēre ta-  
bulam iterum arcum. Et quod in latere descendenti vi-  
debitur: ex 180. gradibus subtrahat si punctus datus pun-  
cto orientis vicinior fuerit q̄ pñcto occidentis: reliqui  
pro quantitate anguli quærit seruando. Si autē puncto  
eclipctice occidentalis magis appropinquauerit: ipsum  
inuentum pro angulo quærit computabis. Pñctus  
autē datus equaliter ab oriente atq̄ occidentis remotus  
angulum apud se quæritum habet esse rectum. Cuius rei  
causæ exemplum est. Sit principem item geminos a me-  
ridiano remotum orientem versus spacio quatuor bo-  
varum equalium id est gradibus. 60. atq̄ idcirco habeat  
altitudinem grad. 34. m. 46. bonos copus igitur habebit  
grad. 22. m. 11. cancri. cuius et puncti dati intercapedo est  
grad. 52. m. 11. quoniam mitto arcum in tabulam cum alti-  
tudine memorata pñcti dati: et liicio fm tenorē pñcepti  
grad. 46. m. 12. magnitudinis scilicet anguli orientalis quæ  
comprehendit bonos cum eclipctica. Eam demō ex 60.  
relinquit complementum tam dicti anguli grad. 41. m. 48.  
Et sit autē complementum altitudinis puncti dati grad. 55.  
m. 14. Huius itaq duo complementa arcum tabule illa-  
ta exponit numerū grad. 57. m. 24. quem aufero ex gra-  
dibus. 180. et relinquant gradus. 122. m. 38. tantusq̄ pro-  
nuncio quæritum angulum. Huiusmodi autē anguli  
in pñcedentibus per hunc numerū grad. 122. m. 38. expe-  
rimus maiorem q̄ nunc quibus ferme minutis pñmis  
Quod eundem non omnino absente tantum videri debet

Et enim multiplices ad hanc rem sunt supputatōes  
non penitus exacte: sed nunc quidem deficientes: nunc  
vō exuperantes in secundis minutis: fieri aliqui opor-  
tet ut tales minutie et si singularem nullius momenti cen-  
seantur: constate tamen aut exorbitans hinc indeq̄ negle-  
cte sensibile quiddam veritatis vel aduocant vel adimant  
Cui rei si promerere forsitan velis: curiosi variis cal-  
culo licet: quemadmodū in vestibulo domus operis mo-  
numus.

### Problema xlv.

**H**abū ascēdētē aut pñctū eclip-  
ctice orientālē in oī regione et oī  
hora p hāc tabulā inuestigare.

Ad hoc propositum vsuueniet notitia me-  
di celi et sue altitudinis meridiane. Que res quo pacto  
addiscantur: nemini medi occurrer docto ignotum esse ar-  
bitramur. Intra igitur arcum cum angulo et meridi-  
ano et eclipctica apud medium celi pñctum: aut cum  
reliquo cuius de 180. gradibus si angulus ipse recto ma-  
ior fuerit: et cum complemento altitudinis meridiane dis-  
tantiæ puncti: quodq̄ in latere descendenti offendit: erit  
distantia quæ nonagesima gradus ab ascendente et ver-  
tece bemisphæri superioris distans. Cuius distantie  
complementum cum altitudine meridiana medi celi area  
rum rursus in tabulam ducto. quodq̄ in latere descen-  
denti occurrit seruat. Id enim ex arcu eclipctice ad me-  
dium celi desinente auferat: si ipsum celi medium in bo-  
midia eclipctica ascendente fuerit. et relinquantur arcus  
eclipctice ad occidentem terminatus: quæ cognitio aspi-  
dens etiam cum per diametrum et opponatur non late-  
bit. Aut huiusmodi scriptum medio celi superaddet:  
si ipsum celi medium in semicirculo eclipctice descenden-  
ti erit: tunc. Et alio enim auctua supputatio ad orientalem  
eclipctice sectionem se perducet: quæ quidem ascendens  
gradus initium proculdubio existit. Pñcto autem sol-  
stitiali aut brumali cardinem regium possidet bonos co-  
pus sponte quasi agnoscentium scire prebet. Idem enim  
capitonus caput suum in meridiana supra terram de-  
ponit: eorumque arcus et infera emergere intelligat. Ca-  
ro autem ad cardinem regium ambulant: obelā supra  
horizontem portendi ceterum est. Et quorum omnium cre-  
pulario supputatio adnectenda videtur. Pñctus quispā  
suum sexti gradus pñctum in medio celi: indeq̄ possit  
sibi reddi bonos copum in regione habente latitudinem  
quadragesimo graduum. Altitudo meridiana medi  
celi est grad. 12. m. 40. Cuius complementum grad. 57. m.  
20. Angulus meridiani et eclipctice apud medium celi est  
grad. 68. m. 21. quibus et viginti unus subtrahit. Quæ  
quidem angulum cum dicto complemento altitudinis  
meridiane medi celi grad. 57. m. 20. mittit lateraliter in  
tabulam: et expromo fm legem datam grad. 51. m. 29. tan-  
taq̄ est remotio summatōis eclipctice a vertice bemisphæ-  
ri superi. Huius denique complementum grad. 38. m. 31.  
vna cū memorata altitudine meridiane medi celi arcum  
in tabulam trāferentem mihi offertur arcus grad. 40.  
m. 2. Quem demō ex arcu ad medium celi desinente: et re-  
linquant gradus. 5. m. 58. capitoni in cardine occiduo.  
quocirca per diametralē oppositionem inuenio grad. 5.  
m. 58. cancri in ascendente.

### Problema xlvj.



**S**iquis ascendente in regione  
qualibet habuerit: quo pacto  
medium celi inuestiget manu  
ducere.

Primum astronomo difficile vide-  
cū comprehendere: si tabulam ascensionū obliquā ad  
regionē suam habuerit. Hoc autē impeditur ab obli-  
quo: si tabulam obliquā ascensionū subleuet illud  
inquiremus hac via. Et decimo problemate amplitudi-  
nem ortuum ascendentium accipiemus: et ex vigesimopri-  
mo angulum qui ab horizonte eclipctica ad punctum  
orientis continet addicemus. Deinde lateraliter intrabi-  
mus tabulam cū dicta amplitudine ortus: pfectus angu-  
lus quantitate: et quod in angulo cōmuni reperitur: ex  
quadrante abicimus. Cum residuo autē et completēto  
amplitudinis ortus scēditur arcum rursus tabulam  
ingrediemur: quod in latere descendente occurrit: et ar-  
cus eclipctice ad punctum orientis terminato minuemus  
in pectus ipse orientis fuerit in semicirculo eclipctice az-  
strimo. Aut addemus idipsum arcui eclipctice ad punctū  
occidentis terminato si partem eclipctice aequiloniā pos-  
sident punctū orientis: sic enī habebim⁹ arcū eclipctice  
cū terminus in meridiano supra terram eperit. Hoc  
ro sic uti arcus ascendente capite cōmuni regium occupat  
cardine: ita intro libe surgente caput cancri in meridiano  
no abisq̃ villa sinosa supputatione inveniet. Idem  
etiam aliter idem explorari. Et quidādecimo enī bōna  
uicinis obliqua arcus eclipctice qui ad punctū orientis  
desinit sciet. Cōpta igit quadrā et arcui ex bōna  
ascensione obliqua: et clinquetur circulus recta arcus  
eclipctice terminati ad punctum quē in medio celi existit.  
Unde et ipsum celi medium cetero innotescet. Et ex  
plari autē calculo problema satius illustrabitur. In re-  
gione vbi polus borealis 48. gradibus extollit sit  
equus quintidēcimi arcus gradus. Subcatq̃ per eum in-  
quire medium celi abisq̃ villa ascensionū obliquā ta-  
bula. Optima amplitudo puncti orientis est gra. 8. m. 52.  
borealis. Angulus autē acutus et horizonte et eclipctica  
apud finem quintidēcimi gradus arcus p̃ueniens est  
gr. 1. 8. m. 51. quem vna cum amplitudine ortus memora-  
ta lateraliter mitto in tabulam: colligop arcum grad. 2  
m. 51. Causa deinde complementum grad. 87. m. 9. cum  
complemento amplitudinis ortus gra. 81. m. 9. arcum  
tabule inferendo elico gr. 81. m. 51. Hunc numerū addo  
arcui eclipctice ad borealem occidū desinent: videlicet  
15. gradus libe. Arcus itaq̃ et bōnae modi additione  
cōcretescens proxtendit ad mediū celi questum: est gra-  
dus sex et minutus 35. capitū.

### Problemata xxvij.

**I**n omni regione elevationem  
solis supra horizontē quacūq̃  
bora data aliter q̃ superius di-  
numerare.

Aliter quidem pollicemur  
quā paulo difficilis. ne ta-  
men hoc via relinquatur ignota: iusto ordine post me-  
diū celi et ascensionis noticiam aperienda videbatur. nā  
et ille bora ad propostum p̃sens cogniti necessa-  
rie sunt. Intra itaq̃ arcum cum distantia medi celi ab  
orientis aut occidentis puncto: vti videlicet eorum vi-

cinioz fuerit: et cū altitudine meridiana medi celi. quodq̃  
in latere descendente colligitur: denno lateraliter tabu-  
le immittas cum distantia loci solaris ab oriente vel oc-  
cidente. reperies enim in angulo cōmuni altitudinē so-  
lis questam. De si initium circi aut capiti enī in medio  
celi fuerit: intrabis arcum cum altitudine circi meridiana  
et distantia solis ab oriente vel occidente. Angulus  
namq̃ cōmuni questam prēbet altitudinem. Et ex  
bigratia repetamus quādecimam a recte gradum tam  
orientem: et medium celi et ex cognitum gra. 6. m. 35. ca-  
pitū: sitq̃ cura a iunctis altitudinem solis in p̃-  
cipio p̃sens existens. Altitude meridiana medi celi  
est gra. 18. m. 40. Distantia autē eius a cardine occiduo  
gra. 81. m. 35. Hos duos numeros iuxta p̃ceptū arcum  
transfere in tabulam circulo gra. 18. m. 35. Quē  
deinceps numerum cum distantia solis ab ascendente: q̃  
est gra. 45. mitto lateraliter in tabulam: et in angulo cōm-  
muni ut affolet ostendo altitudinem solis questam gra.  
13. m. 14. Illud demum bōna quāqua silentio p̃re-  
terendum censo. Numerum ex arcu introitu elatus  
qui erat grad. 18. m. 35. declaret arcū magnitudinem angulū  
scuti ab horizonte et eclipctica concludi. Causa mentira-  
tionem suspicis alia quādem lege tradidim⁹ in proble-  
mate vigesimoprimo. Utam igitur operationem am-  
plexi malui: ipse te situm erit. Nam ad aliud genus  
problematum transire libet: quo abundans amplitu-  
dinem tabule nostrę demonstramus.

### Problemata xxviii.

**A**scum horizontis quē abscon-  
dit ex eo circulus borealis de-  
pendere.

Circulus borealis d vo-  
candus initia funemur. Plurimū autē  
eas subtellegim⁹ boreas: que a meridie aut noctis me-  
dio numerari solent. Illi vo circuli quos bōnas mē-  
mi sunt in sphaera: et per polos mundi circi quos motus  
primus regulariter incidunt. Quem bōnae fructum affe-  
rant arcus borealis bōnae modi quos queramus: li-  
benter intelligas: si vñq̃ solaris tabulacū delectamus  
eos. De quibus cum instrumenta astronomica tractabi-  
mus differendi copia dabitur. Intra ergo lateraliter cū  
distantia circuli borealis a meridiano et complemento al-  
titudinis poli. quodq̃ in angulo cōmuni occurrit: et qua-  
dra circuli decimas cum residuo antē et complemento di-  
stātice a meridie intra tabulam arcum. quod enim in la-  
tere descendente colligitur: et nonaginta gradibus abis-  
tum relinquet arcum borealis questum: qui videbet  
inter circulum borealem de quo agitur et meridianum  
ipsum continetur. Id ex distantiam autē circuli borealis  
a meridiano arcum equinoctialis circuli accipe: qui in-  
ter meridianum et talem borealem circulum comprē-  
ditur. In hoc decimus op̃e nūq̃ vitra quadrante pro-  
cedere debet. Nam (ut p̃one vulgari monumento vti)  
quinta et septima bore post meridiem accipere equalis  
fortantur arcus boreales. Similiter quarta et octa-  
ua. atq̃ in hunc modum cetera bore equaliter a meridie  
et medio noctis remore. Et cum tam arcus borealis  
ita borealem ad meridie vergēt a meridiano supra ter-  
ram perpēdi debent. Eorum vō que ad medium noctis  
tendant spacia borealis a p̃cto anguli terrei vñq̃  
numeranda. Idem itaq̃ bore equaliter a meridie versus  
distātice quos sibi vendidit arcus borealis a p̃cto  
meridie ad vtrāq̃ partem accipiendo. Et ut exemplo

fortitan planius intelligas quæcūq; ad absolutionē problematis attinent. Nolo scire positionē horiontis facili de bore debitor; quidē inter meridianū & circulum bore fecit de claudis in regione cui polus spectatoriarum octo et quingentes gradus excolit. 3. Iura tenorē istū precepti 62. gradus id est cōplementū elevationis polaris 1. 7. 30. gradus solitē distant a meridiano later aliter in tabula traductū multo offeri in area tabule numerū ille 6. 19. 11. 4. cōplementū 6. 20. 17. 2. cōplementū distantie a meridiano id est 60. gradus arcū tabule inferio extraho arcū 66. 18. 18. 2. deniq; cōplementū solitē gra. 24. 11. 1. 2. magnitudinē arcus quæsitū manifestat.

### Problema xxx.

**A**rcū circuli verticalis quē bore rarius quilibet ex eo secat circulus dimeriri. Cuiusmodi præcedens ad horizontalē ita pñs ad muralē pertinet solaris. Intra q̄ lateraliter cū distantia circuli bore a meridie & altitudi ne poli quodq; in angulo cōi iuuabit. q̄ quadratē minuat. Cū residuo autē cōplementū distantie a meridie intra tabulā arcum habebis nāq; in latere de cōcedēti arcum quæsitū. C. Exemplū huius pñs talē dāmus. Libet inuestigare arcū huiusmodi bore fecit de feruiente. Al titudine 6. poli 6. 48. 10. 0. cū 6. 30. 11. 0. distantia videlicet a meridiano intro lateraliter in tabulā cū cunctis offeri multo numerū ille arcus tabule 6. 21. 11. 49. Cuius cōmplementū 6. 48. 11. 1. cū 6. 50. 11. 0. id est cōplementū distantie a meridiano arcum in tabulā dīro: ostendit q̄m rationē expōsitā 6. 48. 11. 4. Latit cōplementū 6. 21. 11. 6. pñsio arcū quē. Lineæ q̄ pñsio angulū 11. centū a lineā meridiana & arcus bore ite ad in plano fecit ita meridiana q̄ horiontē ad rectos angulos: quales sunt pariter domos plani horiontē perpendiculariter innatent: at q̄ aultrū rectissima facie aspiciēt. Sic aliadner eadē est q̄dā nō in occidua alterutris huiusmodi arcū botariop in quibilibet duob; regulis q̄rō latitudines aggregate summā gradū nonagenariā reddūt. Id arcū horiontalē vñ earū regionū sunt cōles arcub; murali alterius regionis: & eorū. De arcub; loquor ad eadē bore spectantib; C. Uerbi ḡa. In latitudine 48. gradū arcus horiontalē bore terne cōles est arcus murali bore terne in latitudine 42. gradum. Duo quippe numeri memoratarū latitudinū 6. 48. 7. 6. 42. ostēti quādrantē circuli 11. centū. Nō aliter de aliis quibuscūq; latitudinib; atq; bore cōlter a meridie remotis emittas bimus. Quo denum fieri necesse est. vt in latitudine 45. gradū arcus horiontalē ab arcub; muralib; bore rariū paritū band quāq; discrepet: cū nullū sit numerū alit; q̄ 11. centū 45. 6. 11. 4. q̄dā circuli cōplet; pñs q̄ ipemet numerū 45. 6. 11. 4. Sed ne vocabulū notitias obcurrat imbecit p̄ arcus muralis accipe arcū circuli verticalis q̄ in meridiana et circulo bore quibet tenent. 3. nāq; circuli vti eadē in partitio aut muri est ad aultrū recte aspiciēt.

### Problema xxx.

**A**ngulos botarios i plano sup meridianū quib; erecto: ad horiontē autē inclinatio describere.

C. Alia sunt tecta domoꝝ plana ad meridiem directe respiciētia. Angulos aut botarios vocant: eos q̄ oriētē a lineis botariis: quæ quidē sunt & omnia sectiones plani cuiuscūq; & circuloꝝ botariis: qui solitē per polos mundi trāscunt: quādoq; s̄q; cōtione gradus intercedit. Verū hic supponit q̄ arcus mudi p̄t̄ificat planū tale ita q̄ oēs lineæ botariæ currūt in vno t̄ codē puncto: unde videlicet emergit arcus mudi predictus. Quod q̄m in veritate nō ita subsistat: quoniam plana apud nos cūctientia nō sunt in medio mudi: ita q̄ includant centrū vniuersi: quod quidē in ipso arcu firū est: cū t̄i semidiameter terre pene inmensibilem habeat qualitātē respectu semidiametri s̄p̄ere solaris: lineæ botariæ in locis nostris. Descripte eisdē p̄p̄e cōplectunt angulos quos p̄tinent in planū quoduis in medio mundi statueret. Sed de his alibi plenius differet. Consideret itaq; debes elevationē altitudinis poli in p̄cedenti problemate. Huiusmodi autē poli elevationē habebis si altitudinē poli in regione tua subtra xeris ab inclinatione plani ad horiontē tuū: vel eorū inclinationē plani ad altitudinē poli. Et hoc quidē vtrū est oī inclinatio plani tēdit ad eam partē respectu p̄cti verticalis: in q̄ t̄ polus mudi spectatoriarum: reperit. Nā si inclinatio plani fuerit ad partē meridie: minor aut q̄ inclinatio equatoris: cōplementū bore inclinationis cōplementū altitudinis poli addigendū est. Si autē inclinatio plani maior fuerit inclinatione equatoris: ipsa addicenda est altitudinis poli: vt cōseruet elevationē poli supra planū datum. Quæ si inclinatio plani qualis fuerit inclinationi equatoris: elevatio poli vtriusq; super planum datū erit nonaginta gradū. Singuli aut botari anguli quādoq; s̄p̄icet gradus. At si inclinatio plani ad septentriones tendat: qualesq; sit altitudinē poli in tua regione: nullus erit angulus botariarū: vtrum oēs lineæ botariæ equifubunt s̄p̄icet & t̄merit. Inuenta itaq; elevatio nō poli supra planum huiusmodi recurrēdum est ad vigintiūm octauū problema. quæq; eni ibi ad horiontē rectissime: hic ad planū p̄positi accōmodabim; Nēq; opus est illa supputatio exemplari aliis q̄ super eo problemate adduximus.

### Problema xxxi.

**S**i planum aliquob horiontes quib; ad rectos secet angulos ad meridianū autē inclinatum fuerit: angulos botarios in cōprouenientes ministerio numerorum addiscere.

C. Alia sunt domoꝝ parietes facili solā abdisce. ab aultrū vtriusq; arcus. Quo autē p̄ actio anguli huiusmodi inclinationis inueniri debent: in libro instrumentorū astronomorū exponimus. Intra itaq; tabulam arcum cum quantitate anguli inclinationis ad meridianū & cōplementū altitudinis poli: in tua regione. quæq; in angulo cōmuni occurrit & inuenit p̄mū numerū. Cuius deinceps inueniri cōplementū cum altitudinē poli arcum in tabulam mittas: cōplementum eius quod in latere descendenti offerret innotam secundum vocabitur. Deinde tale inuenit secundum cum cōplementū altitudinis poli tabulā arcum mittas: & numerū lateris descendēti multū t̄merit nomenclabim; Si itaq; distantia circuli bore rariū assumptum

meridiano equalis fuerit. Inuēto tertio inuentum secundum pro magnitudine anguli borearii queritur tenendum est. Si autē dicta distantia a meridiano minor fuerit inuentum tertio subtrahere eam ab ipso inuentio tertio: restū dū vocabū inuentum quartum. Cum quo inuēto ac complemento inuenti primi lateraliter tabulam ingrederetur quodq; in angulo cōmuni offēditur: ex quadrante minora. Cum residuo autē et complemento inuenti quarti tabulam areatam intra: quod in latere descēdētē accipies inuentum vltimū appellabitur. Cuius complementū dēme ex inuēto secundo: vt relinquitur magnitudo anguli borearii querita. Uterum si superius memorata distantia a meridiano maior fuerit inuentio tertio: ipsum inuentum tertium ex ea minue: vt relinquitur inuentum quartum. Cum quo deinceps per omnia procedendum est vt antea. Hoc vñ tamen animaduertito: qd vbi prius complementum vltimi inuenti abstruxisti ex inuēto secundo: sic tale complementū addas eidem inuēto secundo: vt conseruetur quantitas anguli borearii queriti. Pōterea non est ignoscendum: qd quando in inuentum quartum nonaginta gradus precise complectitur vltimū quodq; inuentum est quadrā circuli adiungenda scilicet inuentio secundo. Si autē tale inuentum quartum minus fuerit quadrā: inuentum vltimū vna cum quarta circuli addendum est inuēto secundo: vt inde conficiat quantitas anguli borearii querita. Ceterum plura huius documenta. Sit facies plani auerſa ab austro ad partem orientis: cuiusq; inclinatio ad meridianū sit quinquaginta octo gradū in regione cui polus aequilongus octo et quadraginta gradibus ceterolitur. Ad locū inuestigare angulum borearium vnius bore antemeridiani equam vulgo numerat duodecimam. Cuius finis est ipse articulus meridi. Angulum igitur inclinationis grad. 58. m. 0. cum complemento altitudinis poli grad. 41. m. 0. mīto lateraliter in tabulam: elicio inuentū primum grad. 34. m. 34. Cuius deinceps complementum grad. 55. m. 26. cum altitudine poli grad. 48. m. 0. areatam tabule inferendo ceterauritur numerus ille grad. 64. m. 30. Huius complementum grad. 25. m. 30. differētie gratia vocabo inuentum secundum. Cuius demū cum complemento altitudinis polari grad. 41. arcum in tabulam translato eruderetur inuentum tertium grad. 40. m. 3. Cūq; distantia circuli borearii propōſiti a meridiano quicquid graduum sit minus tali inuēto tertio: deo eam ex butiscumodi inuēto tertio: vt relinquitur inuentum quartum grad. 25. m. 3. Illud quoq; cum complemento inuenti primi grad. 55. m. 26. lateraliter in tabulam traduco: et in area eius offēdo grad. 20. m. 24. Quē numerum aufero ex nonaginta gradibus: reliquum vñ grad. 69. m. 36. et complementum inuenti quarti grad. 64. m. 57. arcum in tabulam mīto: numerusq; gradū. 73. m. 10. fm legem datam elicitur appellabitur inuentum postremum. Cuius complementum grad. 14. m. 50. deinceps inuēto secundo: et relinquetur grad. 10. m. 40. quantitas scilicet anguli borearii querita.

### Problemata xxxij.

**H**anc aliquo rā ad meridianū  
q̄ ad horizontē inclinatio quib⁹  
rōnib⁹ angulū quēq; boreariū  
agnoscam⁹ breuiter exponere.

Et talia sunt recta plana domorū nō aspiciēta recte meridiem. Problema p̄cens multos et varios casus ha-

bere potest: fm diuersas plani propōſiti inclinationes: q̄ si sine dispēdio vñ attingere poterimus. Vñum ergo dūm tarat casum prosequemur: quo satis p̄fecto ad reliquos quoq; expeditiora reddemus. Ibi itaq; inclinatio plani bati tā respectu meridiani q̄ horizontis equalitē versu: ita tamē qd para plani sublimior inter vtiem hemisphēri nostri et polū mundi vñum reperitur. Intra bā igitur tabulam areatam cum inclinatio ne plani ad meridianū et cōplemento inclinationis eius ad horizontem: quodq; in latere descēdētē offēdēs: ex complemento latitudinis regionis dēdendum erit. Et o autē quod relinquitur postea vtiē sicut in p̄cedenti egisti cum complemento altitudinis poli. Et alē enim residuum cum inclinatione plani ad meridianū lateraliter in tabulam mittēdo: numerum oblatum vocabis inuentum primum. Cetera vñ deinceps crequies quemadmodum in p̄cedenti traditum est. Nec expectes hic in p̄tationem aliquam exemplarem: nisi numeros p̄cedētē problematis repetere me iubeas. Nam vbi primum introitum feceris quemadmodum p̄cepimus: p̄ficerē operatione ne minime quidem offēdāne ab exemplo priori recedēs. Si quid vñ p̄ter spem in bide dū cūmētia borearii: p̄teritum duobus postionis turbet animum: tam: non est mirum: cum in tanta rerum varietate nemo quāto expectatissimū plane satis possit emergentiū figuratōnem circularē ante oculos suos ponat. Itaq; si linguā boarū idonēum habes: bē vñ ea rattacula fat erit. Sin angulū nūmū vel imperfecit negotiorū butiscumodi tractatū videmus: opus instrumentorum astronomieorum consulto: vbi longior sitq; tēroni hō bē omnia metemur. Vbi demū tradetur quo pacto memoratē inclinationē planiorū tam ad horizonem q̄ ad meridianū exp̄itari debeant. Et vñ res cum speciem quandam geometricā p̄sēntent: tum absq; cōmodis instrumentis app̄obis nequunt: atq; idcirco a p̄cētis lucubratione astronomica pauperem diuersē et alibi oportunitū vtiq; eleuātionē ludos quodam astronomos inflaturare libet.

### Problemata xxxij.

**H**anc ascēſione obliq̄ cuiusuis  
noti arcus ecliptice ab arietē  
aut libra deducti latitudinē re  
gionis vbi talis cōtingit ascēſio

indagare. Et vtiē ascēſionē rectā p̄pōſiti arcus eleuatio incipit: declinationēq; puncti terminatū cū arcū. Subtrahita igitur altera borearii ascēſionū ab altera: minore scilicet a maiore: relinquetur differētia carū ascēſionum. Cum cuius differētie cōplemento ac cōplemento declinationis prius dicte tabulam lateraliter ingrederē: eo quod in angulo cōmuni colligeret ex nonaginta gradibus ablato: residuum cum declinatione p̄dicta areatam in tabulam mittas: latitudo enī descēdētis numerum quendam offēdet: qui ex quadrante demptio relinquet latitudinem regionis quam querbas. Uterum si data ascēſio obliqua cū equalis semicirculo: atq; idcirco arcus ecliptice cū respondēte demum circulum complectetur: frustra tenderemus ad abolitionem problematis: siquidē ascēſio recta semicirculi ab arietē vel libra cūſi equalis est ascēſioni cōpōſiti in qua:

est regione non magis itaq; in una q̄ in alia: sed in ol regione talis semicirculus ecliprice q̄ semicirculo equi noctali ad eodẽd termino desinẽtẽ ascendit. Porro ex desensionẽ quocũq; obliqua arcus ecliprice cuiusq; latitudinem regionis addidit facilius prebuitur: si hoc vñ animadverteris: q̄ desensio arcus quancũq; equat ascensionẽ obliquam arcus et per diametru op̄positi. Cũ autẽ exemplum oculos cõuertẽ. Põnatur quartum gradus geminorum in regione quapiam elio uari cum 15 gradibus equinoctiali circuli: p̄terurq; latitudo regionis sitis. Aliternõ recta quart gradus geminorum est gra. 62. m. 0. Obliqua autẽ cõuato ponebat̃ gra. 35. m. 0. Erit itaq; differentia barum ascensionũ recte videlicet 3 oblique gra. 27. m. 0. Cũq; cõplẽmentũ gra. 63. m. 0. Declinatio p̄dicti claudens quartum gradum geminorum est gra. 21. m. 0. Cũq; cõplẽmentũ gra. 69. m. 0. Dec duo cõplẽmentũ lateraliẽ tabule illatã eripit gra. 35. m. 17. Cui numerũ ex quadra circuli sumitur relinquit gra. 33. m. 14. id est ortus amplitudinem memoratũ boreoscopi. Quam deinceps cum declinatione puncti dati arcum in tabulam transpõnanti mihi fm̄ preceptũ tenorem offertur numerus ille ẽ. 40. m. 11. Cũq; auctore et nonaginta gradibus vt relinquitur latitudo regionis quẽdã gra. 42. m. 47.

### Problemata xxxiiij.

**P**roposito arcu ecliprice alium de q̄ ab alterutra equinoctiali sectiõe exorsũ cum ascensione sua obliqua: altitudinem poli aequilonij in ea regione vbi talis obliqua ascensio accidet emetiri.

Cũ p̄missis ad negotium descendemus: hoc vñũ generaliter persurgendũ est: q̄ quilibet arcus ecliprice cuius duo termini equaliter ab alterutra puncto: um tropicorum remotur bar et ascensionẽ obliquam ascensio n̄ sic recte equalẽ: eius quocũq; termini declinationẽ ab equinoctiali circulo equales foriturur. Quod deniq; fieri necesse est: vt duo memorata puncta terminalia p̄ motum primi vni 7 eodẽ puncto boreionto incidant. Quia autẽ arcus p̄dicti loco ineptus erit: cum sicut inter ascensiones suas rectam videlicet atq; obliquã nullã reperitur differentia: ita 7 declinationes punctorum terminalium sese non ercedunt. Quibus rebus intercedentibus problemã nostrum absolutũ oportet. Et igitur duo puncta terminantia arcũ ecliprice barum inqualiter a puncto tropico distant: 7 ambo fuerant in semicirculo ecliprice boreali: aut ambo in semicirculo austrino: scias primo declinationẽ eorum: quas oportet esse in equalẽ. Cũq; addidit ascensionẽ rectam arcus dati ex eis quẽ supra tradidim. Cũq; conferat ascensionẽ obliquã datã: minorẽ earũ ex maiorẽ dñẽ vt reliquã differẽtia erit. Quã quidẽ cõplẽmentũ maioris declinationis in tabulã lateraliẽ mittas. 7 q̄ in area tabule vt affollet colligẽt inueniẽt primi appellabis. Bũ inuẽt cõplẽmentũ cõ declinationẽ maioris tabule arcum imittas. 7 ex q̄ in latere descẽdẽt offẽdẽt ipsam declinationẽ minorẽ auctore: reliquũ vocabis inuẽtũ secundũ. Cũ eius inuẽtũ secũdũ cõplẽmentũ ex cõplẽmentũ inuẽtũ p̄mũ tabulã lateraliẽ ingredere: 7 numeri i angulo cõi

occurrẽtia cõplẽmentũ cũ inuẽtũ p̄mũ in tabulã arcum mittas: q̄ cũ in latere descẽdẽt accipies cũ cõplẽmentũ declinationis minoris lateraliẽ in tabulam ducto: 7 in angulo cõi reus latitudinẽ regionis quẽ sitã. Et autẽ aliter quidẽ p̄cepto terminali fuerit in parte boreali: claudẽt vñ in parte austrina: tunc vt supra duxi declinationis: q̄ vñ gñẽ q̄ septentrionalia: alia autẽ meridionalia erit itaq; differentia ascensionũ cognita ingredere tabulã lateraliẽ cũ cõplẽmentũ declinationis borealem 7 offẽtẽ itẽ ascensionũ p̄dicta: numerũ anguli cõi pro inuẽtũ primo teneas. Cũ inuẽtũ cõplẽmentũ cũ ipsa declinationẽ boreali arcum tabule imittas. 7 q̄ in latere descẽdẽt colligẽt declinationẽ austrinẽ aduãq; colligẽt inuẽtũ secũdũ appellabis. Eius inuẽtũ cõplẽmentũ cum cõplẽmentũ inuẽtũ primi lateraliẽ in tabulã trãssẽt: 7 numerũ anguli cõi ex 90 gradibus aufer. quodq; reliquũ manebit cũ inuẽtũ primo arcum tabule inferas. nũquid in latere descẽdẽt accipies punctũ in tabulã denũ lateraliter missus cũ cõplẽmentũ declinationis austrinẽ claudẽt vñ p̄fectũ est ex area tabule latitudinẽ regionis quẽ sitã. Bũ problemata talẽ erit exẽplũ. Põnãt arcus ecliprice 18 gradibus a fine scitũ 7 viginti gradibus arcus incl̄ p̄rens: 7 ad finẽ quart gradũ geminũ declinẽt: libetq; inuestigare latitudinẽ regionis in qua memoratus ecliprice arcus claudatur cum viginti umq; gradibus 7 54 minutis equinoctialibus. Aliternõ recta dicti arcus est gra. 37. m. 54. Et quã minus ascensioẽ obliquã sup̄positam: vt clinq; differentia bonificabit ascensionis gra. 12. m. 0. Inuẽtũ deniq; talis arcus dabit declinationẽ borealem gra. 10. m. 4. Cũq; cõplẽmentũ gra. 79. m. 56. finis autẽ eius declinationẽ habet item borealem gra. 21. m. 0. Cũq; cõplẽmentũ ẽ 69. m. 0. Bũ igitur cõplẽmentũ maioris declinationis cum differentia ascensionũ ẽ 12. m. 0. mitto lateraliẽ in tabulã: minorẽ in area tabulẽ inuenio gra. 11. m. 12. quem numerũ voco inuẽtũ primũ. Cũq; deinceps cõplẽmentũ gra. 78. m. 48. maioris declinationẽ arcus dabit q̄ est gra. 21. m. 0. arcum in tabulã trãssẽt: offẽtẽ mihi in latere descẽdẽt vt affollet gra. 21. m. 26. Et quã auctore declinationẽ minorẽ: 7 reliquũ gra. 11. m. 22. appello inuẽtũ secundũ. Cũq; cõplẽmentũ 79. m. 38. cũ cõplẽmentũ inuẽtũ primi ẽ 78. m. 48. lateraliẽ in tabulã trãssẽt: mihi offẽtẽ nũq̄ ille ẽ 74. m. 4. Bũ itẽ cõplẽmentũ ẽ 15. m. 56. cũ inuẽtũ primo ẽ 11. m. 12. arcum in tabulã ducto: cõp̄ripẽt numerũ ille ẽ 45. m. 5. Cũq; p̄ostremo cũ cõplẽmentũ declinationis minoris ẽ 79. m. 56. lateraliẽ in tabulã mitto. sicq; circulo latitudinẽ regionis quẽ sitã ẽ 44. m. 11. In hoc casu ambo declinationes fuerũt septentrionalẽ. 7 aduãq; offerat arcus a fine. 16. q̄ p̄fectũ incipimus: ac ad q̄ritũ geminũ descẽdẽt. Bũ itaq; arcus principũ austrinẽ bẽt declinationẽ ẽ 5. m. 12. Cũq; cõplẽmentũ ẽ 84. m. 23. finis autẽ cõ declinationẽ bẽt aglonia ẽ 21. m. 0. accipẽt itã dñũ dñũ traditũ cõp̄rebit. Cũq; declinationẽ cõplẽmentũ est ẽ 69. m. 0. Bũ arcus ecliprice oblatũ 7 boreiontẽ recte claudẽt cũ ẽ 74. m. 52. In q̄p̄ autẽ boreiontẽ oblatũ cũ ẽ 44. m. 52. q̄ritũ q̄ritũ tollit polus agloniũ supra cũ boreiontẽ. Dñũ memoratũ ascensionẽ est ẽ 40. m. 0. quã cũ cõplẽmentũ declinationis boreali lateraliẽ mitto in tabulã: 7 offẽtẽ itẽ occurrit mihi inuẽtũ p̄mũ ẽ 27. m. 50. Cũq; eĩndẽ cõplẽmentũ ẽ 62. m. 10. cũ ipsa declinationẽ boreali ẽ 21. m. 0. arcum tabule itẽrẽdo claudẽt nũq̄ ille ẽ 21. m. 55. q̄ aduãq; declinationẽ austrinẽ vt p̄rferat inuẽtũ secũdũ ẽ 29. m. 27. Cũq; cõplẽmentũ ẽ 60. m. 13. cũ cõplẽmentũ inuẽtũ p̄mũ ẽ 27. m. 50. lateraliẽ in tabulã ductũ mihi offẽtẽ numerũ ille ẽ 50. m. 21. Cũq; itẽ cõplẽmentũ ẽ 39. m. 39. cũ inuẽtũ p̄mũ ẽ 27. m. 50. arcum in tabulã mitto vt circũdẽ arcus ẽ 47. m. 2. quẽ p̄ostremo cũ cõplẽmentũ declinationis austrinẽ ẽ 84. m. 28. lateraliẽ in tabulã trãssẽt: offẽtẽ

aliquo latitudine regionis quæ sita grad. 46. m. 45. in qua videlicet arcus eclipsticæ propostus calculatur cum arcu equinoctiali qui in principio huius calculi supponebatur. Quod si finis arcus proposti equali intercapedine ab alterutra sectioni equinoctiali distiterit: dimidui ascensionis oblique propostæ ad dimidium arcum eclipsticæ dati necessario spectabitur, quoniam arcus eclipsticæ equaliter et equaliter ab eadem sectione equinoctiali distans equalibus ascensionibus in quocumque boreione donantur, quamobrem cum medietate ascensionis oblique propostæ arcus dimidui eclipsticæ ad eam spectare problematis præcedentis formulam repetemus.

### Problema xxxv.

**D**ato gradu medi celi cum amplitudine ortus ascendentiæ: ascendentem ipsum latitudinēq; regionis si quam habuerit inuestigare.

Elabet quidem regio propostæ ortus ascendentiæ super ad declinationem eius ab equinoctiali circulo. Id id equat cum declinatione (nam minor ea nequit esse) regio ipsa nullam propriam latitudinem fortiter. Quævis itaque puncto per superius exposita magnitudinē anguli pronuntiatur et eclipsticæ et meridianæ apud punctum medi celi. Quæ si minor quadrante fuerit: voluit erit presentis negotio. Si aut maior quadrante erit: celi fuerit: eam et semicirculo demas: et residuum pro numero introitali ferat. Cum tali itaque numero ac complementum amplitudinis ortus ascendentiæ tabulæ arcum ingredere, arcus enim in latere descendenti occurrat a puncto medi celi per signum consequentiæ computatus ad punctum eclipsticæ orientale se perducet: si angulus et eclipsticæ et meridianæ apud eceli medi pronuntiatus minor fuerit: rectosid est si amplitudo ortus ascendentiæ fuerit meridianæ. Si aut angulus eclipsticæ et meridianæ recto maior fuerit: aut amplitudo ortus ascendentiæ septentrionalis extiterit: arcum talem in latere descendenti repositum et semicirculo minue: reliquus a medio celi arctum computanti occurrat tibi punctus eclipsticæ qui est caput boreocopi. Si latitudinē autē regionis inueniendam hæc via gradiendi est. Si amplitudinē ortus ascendentiæ cum declinatione eius ab equinoctiali circulo arcum in tabulam mittito, nam quod in latere descendenti offerretur erit complementi latitudinis regionis ipsum ergo et quadrante circuli auferas: et reliquatur latitudo regionis quæsitæ. Aliter quoque eadem repetere: si amplitudinem ortus ascendentiæ cum complemento arcus qui inter medium celi et ascendentem est arcum in tabulam miseras: accipies quod in latere descendenti distans a puncto medi celi a vertice capitis. Cui quidem distans declinationem medi celi si borealis fuerit adiuugas: vel si australis fuerit ab ea demas, quod enim altero bonum modorum præstent latitudinem regionis quæritas persequatur. Et exemplum. Quoniam mihi quæsitā inter geminorum in medio celi: amplitudinē ortus ascendentiæ addue ignoti borealem quatuordecim gradus: et rubec in hoc dicere ascendens ipsum cum latitudine regionis. Angulus meridianæ et eclipsticæ apud principium geminorum est gra. 77. m. 46. Quævis cum complemento amplitudinis ortus gra. 76. m. 45. arcum misit in ta-

bulam: elicioq; per præcepta gra. 83. m. 1. Hunc arcum demo et semicirculo: quoniam angulus menotatus erat minor recto: et ortus amplitudo borealis. Relinquitur itaque arcus gra. 86. m. 51. Quæ a medio celi extensum per seriem signorum claudunt sex gradus et 51. minutis viginti: ibique pronuntiatur esse caput boreocopi. Cuius quidem declinatio æquatoria est gra. 9. m. 1. Etiam cum amplitudine ortus ascendentiæ gra. 14. m. 0. arcum in tabulam transferendo elicitur numerus ille gra. 40. m. 1. qui tandem et gradibus nonaginta sumotus et relinquit latitudinem regionis gra. 49. m. 17. quam bætius quærebamus.

### Problema xxxvj.

**D**ato medio celi dato ac ascendente cognito latitudinem regionis elicere.

Quævis enim et viginti pro declinatione angulum meridianæ et eclipsticæ apud punctum medi celi pronuntiatur. Cuius quantitas si nonaginta gradus non transgreditur pro primo numero introitali accipimus est. Si autē eisdem superat ipsam et semicirculo demerit: liquumq; pro numero primo introitali teneto. Arcum deniq; eclipsticæ medio celi et ascendente interdusum pro secundo numero introitali sume: si minor fuerit quadrante. Aut cum et semicirculo minui: quædam circuli imperascrit. et residuum pro secundo numero introitali ferat. Idem igitur duo numeros introitalis in tabulam lateraliter mitte, nam complementum numeri quoniam præbet angulus communis erit amplitudo ortus ascendentiæ: meridianæ quidem est boreocopi in semicirculo eclipsticæ australis fuerit. Septentrionalis vero si in dimidia eclipsticæ boreali extiterit. Cognito autem medio celi et amplitudine ortus ascendentiæ: reliqua per formulam præcedentis problematis absolve. Ceterum principio sine cancri sine capitisque regionis possidens carionem problema erit incertum, quandoquidem omnibus hoc regionis commune est: quod alter puctus tropicus in medio celi extiterit: alterum punctus equinoctialis boreiontem obtineat. Et in exemplo ceterius accipies. Quæbeat quodam regio principium quoniam piscium in medio celi: caput autē cancri in ascendente. Quod inquirere latitudinem regionis illius. Angulus meridianæ et eclipsticæ apud celi medium est gra. 69. m. 22. Etiam cum sexaginta gradibus reduce de semicirculo post ablationem 120. graduum qui cancrum a piscibus remouet: latera liter tabule immitto. Unde extrahitur numerus ille gradus. 54. m. 8. Id et quadrante circuli dempti relinquit gra. 35. m. 51. amplitudinem ortus ascendentiæ. Etiam deniq; cum maxima declinatione solis gra. 23. m. 10. et piti cancri debitas arcum in tabulam transmissas elicio gradus. 42. m. 54. Cuius complementum gra. 47. m. 6. latitudinem regionis quæsitam inueniat. Idipsum efficit etiam vii amplitudinem ortus menotatum cum complemento arcus inter medium celi et boreocopi: conclusio est igitur gradibus arcum in tabulam transfero: nam si in ista circuli in latere descendenti ut si solis gradus quinquaginta et octo. m. 36. complementum soliet altitudinem meridianæ medio celi. Et quo demum complementum minus declinatione australi ipsius medio celi: ut superet latitudinem quæsitā gra. 47. m. 6. Idem igitur est prima omni latitudinem: que boreocopi cum carionis regionis trigona ratione scilicet illius arctum permutat. Et quæ res si quis mysterium conatque potius



regio hungarie amplissimo band inuiste tribuē. nam et  
ipsum plurimum in ea quā cūctius latitudine situm est.

### Problema xxxvij.

**C**ognita latitudine alicuius re-  
gionis in quāto tempore quili-  
bet arcus ecliptice borealis da-  
tus circū verticalem pertrā-

seat erperiri. Cū arcus datus si fuerit semicircula-  
rum spacio duo decim horarū equalū. quoniam semicir-  
culus equinoctialis vna cū tali semicirculo ecliptice quē-  
libet in sphaera circuli magni hūm et currit. Si vō ar-  
cus datus minor quidem semicirculo fuerit: duo aut ter-  
mini sui a capite canent: et idco ab equinoctiali quocūq;  
circulo equas habent remotioes: scias ascensionē rectā  
talis arcus. nam in tempore quod debet diuisiōismodi ascē-  
sioni recte sic pertransitus antedictus. Quā si puncta ter-  
minalia a arcus. ppositi inaequaliter a capite circulo: quod  
ab ipso equinoctiali circulo secedant: rectam item ascen-  
sionē dāt arcus ad iūctas: et declinationē tam pceptū q̄  
sumo eius. Unde per decimum octauū problema que-  
re altitudinē principij in circulo verticali. Cuius altitu-  
dine cōplemētū cum cōplemētō declinationis dicti  
principij tabule arcum imittas. quodq; in latere de-  
betur occurret vobis inuentū primū. Similiter scien-  
da est altitudo puncti finalis in circulo vticali. Cū cuius  
altitudinis cōplemētō ac cōplemētō declinationis  
enodis puncti finalis tabulam item arcum ingredere.  
quodq; linea descendens offeret inuentū secundū nomi-  
nabile. Ad op̄a ista inuētorū differentiam adde ascensionē  
recte arcus ppositi si punctus finalis borealis: fuerit  
puncto initiali. aut eandē differentiam ex ipsa ascensione  
recta minuas si punctus initialis fuerit borealis: puncto  
finali. sic cū emerget arcus equinoctialis circuli: vna  
cum pposito arcu ecliptice ercurrit circulum vertica-  
lem. Et aut arcui quantum tempus respōdeat facile scien-  
ti pro quinq; gradibus ut affollet singulas horas eq̄-  
les sumptas. Quā si arcus datus a sectione vernali inci-  
piens citra autumnalem sectionē desinat: inuentū primū  
erit quodam circuli abq; vlla supputacione. Si vō post  
caput arietis initium sumat: et ad libit principium de-  
clinationis secundū nonaginta gradus complectatur  
In vitro ergo bonū calidū vnu introitus omittet. Ce-  
tera vō ut supra pcedent. Quā pfecto problema lōge  
eclipticæ abscissus hoc pcepto. Accipe ascensionē obli-  
quā eius arcus qui per diametrum oppositū arcui dato  
in regione cuius altitudo polaris vna cū altitudine pola-  
ris tue quodam circuli conficit. Quindoci nāq;  
horas diuisiōismodi ascensionis singulas equales pae-  
rebit horas. Singuli deniq; gradus liqui numero quin-  
denario fuerint inferiores quaterne minutis partien-  
t. Quērit aut quā cōmodō hoc problema affrat non  
ante respondetur: q̄ cōmentaria nostra ac vniuersam  
pne astronomicā euoluent. Non enī impensitārū (ve-  
luti lex opus borealis) alioq; vsum tabule nostre decerni  
mus exponere. Interca pfecto nōnibi voluptatē lectio-  
ri accedet: vbi ad tam varios q̄ scitu incredibilis vsum  
hūc actum nostrū accommodari possit animaduertit.  
¶ In exemplo sic accipe. Sit arcus ecliptice datus. 102.  
gradū a fine quartū gradus geminorū incipiens: et ad fi-  
nem sectionis virginis desinēs. Principij buri arcus

declinationē borealem habet gra. 21. aff. 0. Cuius cōple-  
mentū gra. 69. m. 4. finis aut declinationē aequinoctia locu-  
tatur g. 5. m. 12. Cui cōplemētū g. 54. m. 28. Solo scilicet  
tari quāto tpe memorat arcus ercurrit circuli vticali  
in latitudine. 48. gradū. Hanc ergo latitudinē cū decli-  
nationē puncti initialis g. 21. m. 4. arcum muto in tabulā:  
et cūcō altitudinē puncti dicti initialis in circulo. Vtica-  
li g. 18. m. 50. Similiter cū eadē latitudine regione g. 48.  
m. 7. declinationē puncti finalis g. 5. m. 12. arcum tabu-  
lam ingrediet mibi offeret altitudō puncti finalis in cir-  
culo verticali g. 7. m. 28. Ad hoc cōplemētō declinatio-  
nis initialis g. 69. m. 4. cū cōplemētō prime altitudinis  
g. 41. m. 19. arcum in tabulam trāscito: et tribus mūt  
in primū g. 29. m. 47. Non aliter cōplemētū declinatio-  
nis finalis g. 84. m. 28. cōplemētū altitudinis secundē  
g. 32. m. 12. arcum in tabulam mēsa dicunt inuentū se-  
cundū g. 85. m. 3. Ad op̄a inuētorū differentia est g. 15. m. 16.  
Quā aufero et ascensionē recta arcus ppositi g. 105.  
m. 8. et relinquitur numerus ille g. 99. m. 52. tantūq; ferme  
arcus de paralko puncti finalis elatus cū arcu eclipti-  
ce dato supra circuli verticalem. Cui de tpe respōdent  
horæ quos 7 ferme. 59. minūte vni⁹ bore equis. Ad act. nō  
de boreo scopo ppro. Nam de eo qui duob; regionibus  
cōmunit accidet pancia quodam degnissimū.

### Problema xxxviii.

**H**abes regionib; idem eodez  
instanti ascendens notum ha-  
bentibus: puncta autē eclypsi-  
ce in meridianis suis diuersa  
et cognita: vtriusq; latitudinē disse-  
rentiāq; lōgitudinū suarū pscrutari.

Quā due regiones longitudine latitudinisq; differentes  
vni cōmune eodē tempore instanti boreo scopū habere  
possint: band quāquā ab instanti ostēderis: vbi ea que  
in cōmētaris astronomicis tradita sunt satis pscrutari.  
Ide aut instans significat nō respectu meridiani: sed  
fieri nequit q̄ ppositi. Verū idem instans absolute acci-  
piendū est: quia ipsum in regionib; lōgitudinis differēt  
bus diuersas fortis appellationes: propter varias ad  
meridiei circulum habitudines. Subrebe igit ascensio-  
nē rectā meoz celū vni⁹ regionis ab ascensione recta me-  
dij celi alterius regionis: et relinquet differentia lōgitudi-  
nis suarū. Cū aut in vtrāq; regione medij celi nō rē sub-  
ciatur cū boreo scopo cōmuni: p trigonimetricū proble-  
mae multis modis: vtriusq; regionis latitudo nō  
ignotabitur. Cū vbi gratia. 19. abeat dūe quepiam re-  
gionis in ascendente octauū gradum canci cōmuni.  
Quarum altera quidē in medio celi tenet g. 9. m. 42.  
prium altera autē gradū 4. m. 48. eundem signū. Cū tro  
quantum differant in longitudine: id est quanta portio  
equinoctialis circuli inter meridianos eozum cōcluda-  
tur. Et apud capicorum initia ascensionum rectarum  
accepero: ascensio recta meoz celi primi celi g. 71. m. 16.  
secundū autē ascensio recta celi gra. 66. m. 40. que a piori  
dempta relinquit gra. 4. m. 16. differentiam longitudinū  
quantam. Primum vō memoratū regionum oren-  
taliorem indicabo secundā: q̄ illius meozum celi pte-  
rius est medio celi regione secundē. Ad hoc si cū ascēde-  
te eozū cōmuni et vtriusq; medio celi rectam formulam

trigesimiferti problematis refumpfero/excedet latitudo prime quide regionis. 47. gradus. fecit aut 8. 51. quas sane fuppositiunculas vocitatio amor miffas facio: cum ex antea tractatio facile comparari poffint.

### Problema xxxix.

**S**i due qucuvis regiones notarū latitudinū eodē inſtrū comū: ne quoddā aſcendēs cognituz babuerint: quantum lōgitudinibus earū interſit ſpaciū explicare.

¶ Per trigefimifertū huius bis aſſumptum ex aſcēdēte cōmuni noto ac latitudinib⁹ regionū datis duas aſcēſiones obliquas boreoſcopi cōmūnas ſingularitū agnoſco: quarum eccleſias equabit differētia longitudinis queſitam. Rēctia igitur aſcēſione obliqua aſcēdētia cōmūnas in vna regione ex aſcēſione obliqua eiūdem in altera relinquet differētia lōgitudinis expectata. A ſit regione orientali⁹ erit que maior boreoſcopo cōmuni præbet aſcēſione. ¶ Cuius rei tale datur exemplū. Quatuor regionum altera quidem 42. gradus latitudinis habeat altera vō 8. 50. Quibus cōmūner in aſcēdēte ſunt. 1. 5. gradus geminorū. Quæro quantū longitudines earum differāt: vtrā earum orientali⁹ criſtat? Inuenio itaq; aſcēſione obliqua aſcēdētis in prima quide latitudinem gra. 51. m. 19. in ſecūda vō gra. 41. m. 51. Quaru eccleſias eſt gra. 7. m. 46. 3. ergo notificat differētiā lōgitudinis queſitā. Cūq; prima dictarū aſcēſionū ſecūda ſuperet: primā regionū orientali⁹ reliqua concludo.

### Problema xl.

**S**i duarū regionū latitudines note fuerint: cū differētia lōgitudinū ſuarū: an ſit aliqđ aſcēdēs eodē inſtrū ipſis comūne ſubſtiliter explorare.

¶ Cū in vtra latitudinum minor fuerit complemento marine declinationis ſolaris: ſiue equales inuicem eriterint ſiue nō: modo vtrūque earū regionū nō ſint in eodē circulo magno per polos mundi deſcripto: poſſibile eſt eas boreoſcopi foris cōmūne iterum diuiſemodi loca quædam humane habitationi nō pœmit miffa faciem⁹: ad eas videntur regiones calami ſtendēdo: quarū latitudines cōplemētū marine obliquationis ſolaris inferioꝝ ſunt. Si itaq; due latitudines dæ fuerint equales ſiue: vtraru earū minor cōplemētū marine declinationis ſolaris: impoſſibile eſt propoſitas regiones aut data loca quæq; in aſcēdēte vilo cōmunicare. Quab⁹ aut datarū regionū latitudinibus imparib⁹ obſtāt hac lege problema deſiniendū erit. Intra tabulam arcatum cū cōplemētū latitudinis minoris ac maxime declinationis ſolaris. qđ enī in latere deſcēdenti offert⁹: argumentū cōmunicationis appellare licebit. Deinde later alter intra cū cōplemētū latitudinis maioris: differētia lōgitudinis duarū regionū, quodq;

in angulo cōmuni videbit⁹ inuentū primū vocabit⁹. Cui⁹ demū inuenti primi cōplemētū cū latitudine maiorē in tabulam arcatum mittas. 1. et cū quod in latere deſcēnti occurrat latitudinē minorē ab eo quodq; relinquet⁹ inuentū ſecundū nilecupit⁹. Cōplemētū igit⁹ dōtū inuentū tabule laterali⁹ inferas. cū enī qđ in angulo cōmuni offert⁹ ex nonaginta gradib⁹ deſcripto: reſidūū pro inuēto tertio tenebis. Quod tandē inuentū tertium vna cū inuēto primo arcatum in tabulam ducto: 2. id qđ in latere deſcēdenti reperiet⁹: diſcretionis habēde gra numerus comparandus agnoſcet⁹. Cui ſi minor fuerit argumentū cōmunicationis ſuperet⁹: elicto necceſſe eſt duas ſubſpectas regiones bis in die naturali idem cōdē inſtanti habere aſcēdēs. Si aut⁹ numerus cōparandus argumentū cōmunicationis fuerit equal⁹: ſemel duntaxat in boreoſcopo cōcabit⁹. Si ſi numerus talis ipſum argumentū cōmunicationis ſuperauerit: nunq; in aſcēdēte vilo propoſite regiones participabit⁹. Porro in oib⁹ regionib⁹ lōgitudinē non differētib⁹ caput ærietis cōmūner oſtri ſolē: nec enī in ſitu libe. ¶ 80. iam erepta libet animaduertere. ¶ Supponat⁹ regio quædam habēde latitudinē 42. gradū: alia itē latitudinē 51. gradū: ſortat⁹ magis quide occipua prius quāq; gradibus. Volo reddi certior ſit ne cōmūſipiam boreoſcopas illius regionibus an nō. 3. igit⁹ iuxta præceptū latitudinis minoris cōplemētum puta gra. 48. m. 0. cum maxima obliquatione ſolari nullo arcatum in tabulam: vnde ſcaturit argumentū cōmunicationis gra. 12. m. 27. Quod ſecūm caſtū boreoſcopi vili⁹ erit. Deinde cōplemētū latitudinis maioris gra. 19. m. 0. cum differētia longitudinū gra. 5. m. 0. laterali⁹ in tabulam ducenti mihi offert⁹ inuēto primū gra. 3. m. 0. Cuius cōplemētum gra. 86. m. 51. maioris latitudinis gra. 51. m. 0. arcatum in tabulam illat⁹: deponunt gra. 51. m. 7. Illi quibus minor latitudo ſimoca relinquit gra. 9. m. 2. inuentum ſecundum. Cuius porro cōplemētum gra. 86. m. 51. cum cōplemētū inuēto primū laterali⁹ in tabulam tranſſcripſero elictur numerus ille gra. 80. m. 20. Minus itē cōplemētū vna cum ſuauito primo arcatum in tabulam mittere rubeo: vt illic exceptor numerus comparandus gra. 19. m. 0. Cui quoq; minor eſt argumentū cōmunicationis iam duum ſeruat⁹: cūctamq; duas ſuppoſitas regiones quilibet mundi reuolucione duplicem boreoſcopi cōmūnam forſit.

### Problema xli.

**S**i abus regionibus notas latitudines lōgitudinesq; aut diſferētiā longitudinū ſuarū cognitam habētib⁹: ac in aſcēdēte quopiam cōmunicantib⁹: aſcēdēs ipſuz cōmūne ſciſcitari.

¶ Cū in vtra latitudinis minor fuerit complemento marine declinationis ſolaris: ſiue equales inuicem eriterint ſiue nō: modo vtrūque earū regionū nō ſint in eodē circulo magno per polos mundi deſcripto: poſſibile eſt eas boreoſcopi foris cōmūne iterum diuiſemodi loca quædam humane habitationi nō pœmit miffa faciem⁹: ad eas videntur regiones calami ſtendēdo: quarū latitudines cōplemētū marine obliquationis ſolaris inferioꝝ ſunt. Si itaq; due latitudines dæ fuerint equales ſiue: vtraru earū minor cōplemētū marine declinationis ſolaris: impoſſibile eſt propoſitas regiones aut data loca quæq; in aſcēdēte vilo cōmunicare. Quab⁹ aut datarū regionū latitudinibus imparib⁹ obſtāt hac lege problema deſiniendū erit. Intra tabulam arcatum cū cōplemētū latitudinis minoris ac maxime declinationis ſolaris. qđ enī in latere deſcēdenti offert⁹: argumentū cōmunicationis appellare licebit. Deinde later alter intra cū cōplemētū latitudinis maioris: differētia lōgitudinis duarū regionū, quodq;



At si in duobus eodem ascēdēt: et cūsummā mētū com parandū: quē in precedētī collegit: ipsūq; cōple mētō latitudinē minoris tabule lateralis imittas: et qd in angulo cōmuni occurrēt cū maxima declinatione solari dēmi tabule arcuatū ingeras, numerus enim in latere descēdētī occurrēt vbi ex quadratē dēmpnis fuerit reliquēt distantiā ascendētis cōmuni: ab initio quēdam capitiōis: si regio borealis fuerit etiam orientali sua compare. Ab initio autē cūcti: si dicta regio fuerit occidentalis: Distātiāmodi igitur distantiā cōputa vtriusq; a pūncipio cūcti vel capitiōis: sicuti res ipsa postulat, et perducere ad pūctum cēlyptice quod eodē tempore instanti solet esse in vtriusq; regionis boreāntē. Et cōplemētū grātā. Libet retinere pūctas regiones: quarum boreāntē de cēlyptice pūcta cōmūneret exire pōtē. Aliterum itaq; comparandū grā. 19. m. 9. cūm cōplemētō latitudinis minoris grā. 48. m. 0. mīto laterālī in tabulā cēlyptice grā. 14. m. 7. et m. 30. arcuatū in tabulā ducenti mīle fecerūt grā. 37. m. 43. Cū et quadrātē dēmi reliquēt gradus. 52 m. 15. Etiam igitur pōnuocio vtriusq; boreoscopi cōmūmā et capiti cūcti nūc capēdīm. Cūa vtriusq; ab ipso capite cūcti numerat: dīne quē dē grā. 7. m. 43. tantū: illūc vō grā. 22. m. 15. leōm occurrēt. Sic circa boreoscopi lādō quodā mātēmatico agitatū. Jam denūm aīa spectē problematū oblectabere: et quēdam pēculatū vniūq; genitūa hominū iudicare vides. Nam tempore quibz accēdē quodlibet hominū cūcturū est per directiōē pōtissimū fidei auctoritū habēda est pēficerit. Et hē quidē sequentiū problematū mūsticū: quēdam mōdū abī tradidimus: facile comparantur.

### Problema xlii.

**Quantum eluat polus borealis supra circulum positionis stelle cuiusvis: aut alicuius puncti in celo signati perquirere.**

Et Circulum positionis distans cum qui per duas sectiones meridiani boreoscopi ac cūctū stilletineer. Eluatio autē poli borealis supra circulū positionis est arcus circuli magni a polo mīdi aequilomō mēdo ipsi circulo positionis ad rectos angulos. In hoc negotio pāfēctiōis cū declinatio stelle cum distātiā eius a meridiano. Cūm igitur distātiā siue orientālē fuerit siue occidentālē minor quādratē supponit: declinatio septentrionalis: intrābis laterālī cū cōplemētō declinationis et ipsa distātiā a meridiano quodq; in angulo cōmuni offendet inuētū pūmū nūcupabēs. Cūa dēniq; inuētū cōplemētū cum declinatione stelle arcuatū in tabulā mittas. Cōplemētū enim numeri in latere descēdētī finisro occurrēt abiectū latitudinē regionis tue inuētū secundū pērebit. Duoq; igitur pēdictiōnū inuētō cōplemētū tabulē laterālī ingeras et numero angulū et notāntia gradū: dēmpnū in inuētū secundū mīr quādratē fuerit: aut eo notāntia gradū solēto: si tale inuētū secundū quodā circuli superāuerit: rediōis aut collectū secundū quodā circuli superāuerit: tērtiū. Cum quo dēniq; inuētū tertio inuētō pūmo tabulā arcuatū ingredere: quod in latere descēdētī vbi offēcti offēcti inuētū quartū ap

pellēbis. Tale autē inuētū quartū est arcus circuli verticalis inter verticem regionis circuliq; positionis condūsus. Hoc et tandem inuētū quartum cum latitudine regionis in tabulā mittas. Boreāntē cūm angulo cōmuni eluatiōne nō poli borealis supra circulū positionis quam querebas. Si autē distātiā stelle a meridiano equalis quādratū subiciat: ipsūm cōplemētū declinationis pro inuētō pūmo teneas. Et inuētū in autē regionis pro secundo. Et itaq; vō per obiectū vtriusq; absolues. At si distātiā a meridiano quādratē superāuerit: subtrahere eam ex semicirculo. Cum reliquo autē et cōplemētō declinationis tabulā laterālī ingredere, angulus nāq; cōis inuētū pūmū offēcti. Cū dēmi inuētū cōplemētū cū declinatioe stelle arcū in tabulā transieras. cōplemētū cū numeri in latere descēdētī finisro oblati dēmpnū ex latitudine regionis inuētū secundū reliquet. Cum quo dēniq; pēce pō oīa quādratū pūmo ante dēctū est: quādo stēllē distātiā a meridiano quādratē inuētū tērtiū. Illud autē nō est obliuione pōtēre tērtiū: quādo cōis inuētū secundū maius est quādratū circuli: inuētū quoq; tertū maius erit quādratē. Et vō circa cū ipsūm nō possit haberi in tabulā: reliquū eius ex semicirculo in tabulā mitte cum inuētō pūmo: reliquā vniūctā vtriusq; requere. Idē dēmi inuētū secundū quādratū quale occurrat: inuētū quoq; tertū quādratē nō discrepabit, et simul inuētū pūmū pro inuētō quarto teneatū est. Illūc si stēllā ad austrū recesserit: ad quē quid factū opus sit cōnuocābim. Intra tabulā laterālī cum distātiā stēllē a meridiano et cōplemētō declinationis sue. quodq; in angulo cōmuni offēcti inuētū pūmū appellābis. Cū uo inuētū cōplemētū cū declinatione stelle arcuatū in tabulā transfer. latitudinē nāq; regionis sumota ex cōplemētō eius quod in latere descēdētī colligēs: reliquū vocēs inuētū secundū. Cōplemētū itaq; dēctūm nūc inuētū tabulē laterālī mēra: nōmerū cū angulū cōmuni et quādratē rectus inuētū tertium reliquet. Quō rursus inuētū tertio arcuatū in tabulā mīto cum inuētō pūmo nūmū: in latere descēdētī finisro occurrēt inuētū quartū nūcupābis: vtrū. Hoc et tandem quartum inuētū cum latitudine regionis tabulē laterālī imittas: itaq; in angulo cōmuni accipies eluatiōē: nem poli vrsini supra circulum positionis quam obiectabas. Quod si stēllā declinatione pēctius careat: triplici dūtarat introitu pōpositū attinges. Nam inuētū pūmū erit arcus equatoris inter meridianū et stēllam cōctūsus: qui in pēctū notus supponitur. Inuētū autē secundum erit alterū meridianū arcū in tua regione: est cōplemētū latitudinis tue regionis. Et tērtio vō inuestigabis boreāntē. Intrabis tabulā laterālī eam latitudinē regionis cōplemētū distātiā stēllē a meridiano. cōplemētū cū arcus in angulo cōmuni occurrēt inuētū tertium nūcupābis. Cum quo dēniq; inuētū tertio ac distātiā stēllē a meridiano scilicet arcū equatoris inter meridianū et stēllam cōctū arcuatū tabulā ingredere. nūmūq; in latere descēdētī acceptus pro inuētō quarto tenebitur. Quod postea inuētū qrtū vna cū latitudine regionis laterālī in tabulā mittas, angulus cū cōmuni pērebit eluatiōē poli borealis supra circulum positionis quam expectabas. Et tūm cēlūm rem effices hoc pacto. Cōplemētū inuētū tertū cū cōplemētō altitudinis polaris in tua regione arcū tabulē inferes. nā cōplemētū ex qd in latere descēdētī offēcti eluatiōē poli agnomi soli supēbō possidēs declarabit. Idē autē pēcepta stēllē soli supēbō sōtē mīrū accōmōdēs. Si itaq; stēllē cūm pūctū sub boreāntē cūctis positionē mō pōcto nōllē velis

supputatione eam facias cum puncto qui poliametri  
 sicilicet opponitur, ut enim in eodem circulo positus  
 in quo stella ipsa latet, perinde habet respectu. Quamvis  
 problema sit tractatus huius poliametri plane intelliga  
 si ad opus non est ut apparet, annu. Cogita eni  
 quod poli supra circuli positionem in quo latet signi  
 licator quippe locatur & arcus equinoctialis circuli co  
 incidens vbi confoundens arcum elliptice qui est inter  
 significatorem & positionem illi locum ad qui fieri debet  
 vtriusque circuli in supralia vultu tunc hinc baurio: si  
 paulo profundius adstruamus in eadem annotatione inue  
 nia. In habitatione cui polus aequinoctialis extollitur 48  
 gradibus illa quædam habet latitudinem 18 partium  
 distantia meridiano. 30 gradibus est spacio duarum bo  
 riarum equat. Cuius deinceps elevatione poli arcus supra  
 circuli positionem que stella memorata possidet. 3 distat  
 complementum declinationis stelle 52. m. 4. cū distantia  
 eius a meridiano 5. 30. m. 10. m. later aliter in tabula  
 et ad hoc inuenitur punctum 52. m. 4. Cuius deinceps co  
 plementum 37. m. 16. m. ipsi declinatione 54. 3. m. arcu  
 in tabula inferendo possidet numerus ille 57. 10. m. 34.  
 Idem complementum 5. 49. m. 26. quæ admodum regula mo  
 det adiungo altitudinem poli regionis 54. m. 0. sicq  
 crescant 57. 12. m. 26. ad id inuenitur secundus. Illius com  
 plementum gra. 27. m. 34. 50 complementum cui semper  
 opposita arcus sui quatuordecim & quadraginta cū cop  
 lemento inuenitur punctum gra. 4. m. 36. later aliter in tabula  
 punctum mihi offertur gra. 2. 1. m. 54. Cuius adiungo qua  
 drantes & inuenitur secundus quadrans circuli manus fuerit;  
 vbi colligat inuenitur tertius gra. 1. 30. 54. Talis inuenitur  
 tabula inter se semicirculo gra. 18. m. 4. residuum 5. 46  
 m. 4. cuius vtriusq  
 primo gra. 28. m. 24. arcum in tabulam  
 meam excipio inuenitur quartus gra. 31. m. 21. Cuius tan  
 dem deinceps elevatione poli supra circuli positionem  
 gra. 22. m. 45. quæ baurio quælibet. Et rursum distantia  
 stelle propiora a meridiano quadrante circuli coplecta  
 sunt totæ. vnde citius in antea præsumimus. Comple  
 mentum itaq  
 declinationis perinde quasi inuenio primo  
 vnum. Distantia aut polaris regionis tanq  
 inuenio se  
 cundo. Cuius complementum gra. 42. m. 8. 5 gra. 18. m. 8.  
 later aliter in tabula inuenitur exsuper numerus ille 5. 1. 1.  
 m. 56. Cuius deinceps exsuper circuli reliquæ inuenitur  
 arcus gra. 27. m. 4. Quod deinceps inuenitur tertium via cum  
 inuenio primo gra. 22. m. 8. arcum in tabula trāferendo  
 inuenitur in latitudine regionis gra. 48. m. 8. later aliter in  
 tabula deinceps inuenitur elevatione poli supra circuli posi  
 tionem gra. 46. m. 15. quæ expectabatur. Et aliquo autē ca  
 susa quoniam baurio multo ab antea dicto discrepat. ex  
 plani supputatione non illustramus.

### Problema III.

**Q**uæ sit latitudo poli borealis sup  
 semicirculi positionis quæpiā  
 quantæ sit arcus equatoris ab  
 eodē semicirculo & meridiano  
 interclusus experiri. Cuius tribus o lectis  
 & aliis quæ de circulo  
 positionis sermone facimus: nunc aut de semicirculo in ef  
 fectu cuius polus quædam distantia. Per similitudinem

hæc est positio nō accipias quolibet circuli positione  
 medietate: si cū dūcat quod dūcitur meridiani &  
 horizonis terminat. Intra hanc igit tabula nostra arcu  
 cū latitudine regionis tue datæ elevatione poli bore  
 lis supra semicirculi positionem. Et nūq  
 m. later de  
 scendent vbi afficit de peribetis. Et non agnita gradib  
 latitudo residuum cū complendo elevationis polaris datæ su  
 pia semicirculi positionis arcum in rursus in tabula m  
 tea. Complementum enim numeri in rursus de scendent occu  
 rrens arcu quædam perueniabit. Et hoc documentum tabu  
 la positionis generalis quæ in libro directionis possum  
 quæcūq  
 regionis latitudines coponi potest. Quæ si ex bul  
 inuendi arcu equatoris dato elevationem poli borealis  
 supra circuli positionem libat in eadem de scendent videli  
 cet præcisus problema recurrit ab absolutione præcedentis  
 problematis. Et eo qui loco vbi stella declinatione carnet  
 subiectum: propolitus tui discurrat. Intra hanc illa later  
 aliter cū complendo arcus equinoctialis datæ & latitudi  
 nis regionis. Complementum autē cuius qd in angulo cū vbi affo  
 let respicit cū complendo latitudinem regionis arcum de  
 incepto in tabula mittito dices complementum gradib  
 polaris quæsit. Quo demum ex nonaginta gradib  
 relictis  
 inuenit ipsa elevatione polaris supra semicirculi position  
 em. Hinc quocq  
 sciat ibi notitia quattuor circulos octo  
 domos cardium interiectas delineantur: quantum in qua  
 polus aequinoctialis ab horizonis terminis equinoctialis cir  
 culi gradus sim rationabiliter consideratione intercludit.  
 Quæ res in opere quædam directionis parum delibata in  
 commentariis astronomicis satis lucet. Et 3am in crē  
 po libat scitari arcu equinoctialis circuli cū qd ag  
 in regionem cui polus vtriusque circuli 48 gradibus. Vtrius  
 data elevatione circuli poli supra semicirculi positionis  
 gra. 17. m. 0. Iubeat itaq  
 latitudinem regionis 5. 48. m. 0.  
 cū elevatione poli gra. 17. m. 0. arcum in tabula mittit.  
 Quod rite expectat mihi offert numerus ille 5. 2. 1. m. 10.  
 Cuius complementum 37. m. 50. cū complendo latitudi  
 nis polaris supra semicirculi positionem gra. 27. m. 0.  
 arcum item tabule inferendo elicit arcus gra. 4. m. 1.  
 Quæ et nonaginta partibus auctoris video residuum arcu  
 ejectionis quæritur 15. m. 59. Et rursum præbet mihi  
 quæpiā arcu equatoris 30 gradibus a meridiano & semi  
 circulo positionis interclusum: posteaq  
 sibi reddi elua  
 tionem poli vtriusque supra eundem positionem semicirculi.  
 Non plecto quæ sit positio vbi complementum arcus equi  
 noctialis in angulo cū gra. 48. m. 8. latitudinem regio  
 nis gra. 48. m. 8. per tabule latera introducere. Huius crū  
 em in arcu collecta gra. 48. m. 8. ex quadrante auctoris. Cui  
 vbi gra. 49. m. 56. cū complendo altitudinem polaris  
 in regione paupolis gra. 4. m. 1. arcum in tabula trāf  
 feret excipio arcu gra. 46. m. 56. Cui ex quadrante circuli  
 declinationis relinquit gra. 29. m. 2. elevatione poli arcu la  
 pia semicirculi positionis: qui posteaatur.

### Problema III.

**C**ognita portione circuli verti  
 calis clausa inter poli horizon  
 tis & circuli positionis quem  
 cūq  
 : quantum polus borealis  
 supra eundem circuli positionis cle





calculus a vero deficit in dimidia parte minuta vltra gradus. Quia fallacia si declinare libeat: diuersitate aspectus lune iam raderet inuentum vltimè lunari a vertice capiti supradicti: cogerit numero vtere perinde quasi distantia globi lunaris a vertice capiti. Et tunc res numeri ali et rectio ante oculos ponit. Sit distantia lune a vertice capiti 45 gradus. Diuersitas aut aspectus maris in bougeio ante certum lune spectans 8.1.11.4. quod diuersitate aspectus ad memoratam distantiam lune a puncto verticali. Ingressi itaque milli tabula lateraliter cli. 45. gradus vltimè a vertice capiti: 2 vno gradu ac quatuor minutis diuersitatis aspectus offert more solito numero ille. 45. fa. 16. Quem si deinceps tractauerit tanquam diuersitate aspectus penitus inueit: nullo errore sensibili supputatio contaminabit. Et si in tractatione deficiat calculo: diuersitate aspectus iam raderet inuentum distantie lunari a vertice: et erat gra. 45. m. 16. quod cogerit nona quedam distantia a vertice 45. m. 16. cli. quia 7 diuersitate aspectus maris 8.1.11.4. lateraliter tabula intrando accipit: punctus distantie aspectus. m. 45. fa. 16. Aut si fuerit solus placet tractatione pceda 8 puncto. Quia numerus ille 45. m. 16. secus. 16. augurim cōstat: 7 in fronte tabule generalis quædam habet immutata aliquas ipsius porciones. omittit gradus diuaret integros. 45. puncto lateraliter in tabulam cum diuersitate aspectus bougeio tali: elioq: non aliter q: antea. m. 45. fa. 16. Deinde cli. 46. gradibus in fronte pagine acceptis 7 diuersitate aspectus maris 8.1.11.4. eodem modo supputationis ercudo. m. 46. fa. 1. Inter hunc aut numerum 7 lupiolet defecit recipi. m. 47. quia vna cū minutis numeri frontat m. 45. secus. 16. lateraliter trāsfero in tabellam manuales. vnde vt afficit eclipio. 15. secus. 16. minutas. quæ adueta cū diuersitate aspectus primi elicit: cli. m. 45. secus. 16. conficit. m. 45. fa. 51. diuersitatem aspectus querit. Et si ratione simus 7 arcu sectatus fuerit: eliam. m. 45. fa. 50. Qui quidè numero a priori calculo minima quadam differentia recedit.

### Problemata xliiii.

**D**iuerſitate aspectus lune tam in longitudine q̄ in latitudine perſcrutari. Intra lateraliter cli angulo altitudinis 7 diuersitate aspectus hinc in circulo altitudinis. quod cli in area tabule ostendat erit diuersitas aspectus in latitudine quæ quæbit. Ad alter inuenies diuersitatem aspectus in longitudine cli angulo longitudinis dictas diuersitate aspectus lune in latitudine lateraliter tabula ingressus fueris. Angulus aut latitudinis ferme sic agnosces. Si punctus eclipice q̄ lune loci prebet in q̄dr a occidentali fuerit: angulus 7 viginti sexdecim polum inuenies directus angulus latitudinis. Si vō fuerit in quadrante orientale eclipice: angulus erit cōuersus eclipice 7 circuli altitudinis pœmenter. et. 19. gradibus. Si nōq: angulus latitudinis notus reliquit. Eū aut angulus latitudinis si rursus et. 90. gradibus tollas: restabit ppe angulo longitudinis. Et si bouis eodem punctus eclipice pari uterale ab boreosopo cardines occiduo remoueat: angulus quidè latitudinis erit rectus: angulus autè longitudinis nullus habebit: atq: idem diuersitas aspectus in circulo altitudinis erit 7 diuersitas aspectus in latitudine: nulla priorum diuersitate longitudinis erit. Et si plū de diuersitate latitudinis: cuius angulus supponatur 7. 52. m. 41. diuersitas autè aspectus in circulo altitudinis

nis 8. m. 19. Ingressi itaque tabula lateraliter primo quidè cli. 52. gradibus 7 gra. m. 19. elioq: q̄ numerum buc 8. m. 30. fa. 44. Deinde vō cli. 51. gradibus 7 8. m. 39. si milerit angulo numerum ille 8. m. 30. fa. 9. offerit. Eūq: et p̄dicti diuersitas 8. m. 25. cli. 41. minutis numeri frontat in latera tabule manualis tradendo ercipiant 8. m. 18. q̄ adde te numero primo p tabula extracto penta 8. m. 18. secus. 14. offerit 8. m. 11. fa. 2. diuersitate aspectus latitudinis quidè. Et q̄ formula temetò in diuersitate longitudinis emenda: assumpto videlicet angulo longitudinis.

### Problemata xlii.

**I**ntra casus in defectu solaris supputare. Sub aggregato semidiametro solis lune in fronte tabule manualis accepto quæ latitudinè lune visam ad bonam medie defectuonis: 7 numerum ex directo casu in latere rectu q̄ deinceps 7 arca tabule generalis tracta vnu quidè lateris defectuonis. q̄ p̄se inuenio: aut et p̄ponit vno: numerum in fronte tabule scriptu et q̄drate au laci: restat aut cli cōgerit semidiametrum lateralerit in tabula mittat. habebis cli in angulo cli vt afficit 7 minuta casus quidè. Et si bouis eodem ratione ex eueruo cli cōgerit semidiametrum vmbre 7 lune ac vera latitudinè lune 7 medio defectuonis lune res: elioq: casus latitudinè lune 7 medie defectuonis: si mos habuerit eclipio lunaris. aut minuta casus sola si nulli in vmbra mo luna patietur. Cui quidè rei indicibz buc formula tradit. Sub tracta semidiametrum lunari et semidiametrum vmbre: si residuum p̄crauerit latitudinè lune quid p̄bet ip̄a vero 7 p̄ponas luminari: moa p̄culdubio futurū dicet. Si vō late residuum latitudinè lunari fuerit equalè: luna tota quidè obfcurabit: sed mox et vmbra emerget. Et si memorata defecit semidiametrum latitudinè lunari minor fuerit para diuaret globi lunari: deficit: atq: idem moa in vmbra habebit nullū. Et defectio itaq: moa accipiente si differentia semidiametrum lune 7 vmbre cli latitudinè lunari in tabulas miscris: quemadmodū antea congerat semidiametrum cli ipsa latitudinè habebis minuta dimidie mox. q̄ vbi ex summa minoru casus 7 dimidie mox demens: relinquet minuta casus secus accipienda. Oportet aut in prima explosari: si ne futura defectio vtriusque lunari: an nō. q̄ nēpe hoc p̄ce cōcedi tribubimus. Si congeris semidiametrum visuali solis 7 lune supacut latitudinè lune visam q̄ tpe visibilis p̄dicti: inuenies: diminat mar. p̄culdubio deficiet. Si aut cū illa et latitudinè visæ aut minor ea erit: restat q̄ purus i ore vtebet. Vltimū elioq: dicte sūnt semidiametrum 7 latitudinè visæ lunaris globos luminari ad candē radio sum lineam oculo incidentē cōcebet. Ad alter ad lunā speculabimur. Itā si congeris semidiametrum lune 7 vmbre latitudinè lunari quid p̄bet ip̄a vbi p̄culdubio erit det: muncere fraterio ip̄olabit aures p̄bet. Si vō memorata congeris latitudinè tale equerit fr̄onē vt bilat: t̄get nos atra Diane. Et Eripiant aut numerum certo re te reddet. Sit cōgeris semidiametrum visuali solis 7 lune. 12. minutie vno gradus. Latitudo aut visæ lune ad visibilē p̄dictonē 27. minuta cōplectat. In tabula itaq: manuali sub. 12. minutis inuenio. m. 26. fa. 40. 7 a directo suuistotum. 50. minuta. restat ad buc. 20. secunde quoniam 27. minuta sunt in numero latitudinis. sed. 20. secunde sub 12. min. in latere tabule reddunt 8. 17. siq: colligat m. 50. fa. 17. Et hunc numerum q̄ro in arca tabule generalis iuxta vnu gradū sub. 57. gradibus numeri frontalis apud





In principio quidē eclipſis vel totalis obſcuratiois eſſe  
ferri docet ad angulū meridianū occidentalem iam dudū  
ſervatū. In fine autē ad angulū meridianū orientalem.  
Denique vo cetera abſolūta ſunt quemadmodū ſu  
pra monuit eſſe: donec inueniet vltimū arcus in horiſonte  
cōputandus a pñcto incidente. Eam igit arcū in pñci  
pio eclipſis vel totalis obſcuratiois numerabis a pñ  
cto incidente verſus occidentē ſi angulus ſclerionis mi  
nor ſuerit angulo meridianū occidentalis, aut ab eodem  
puncto orientē verſus li maior eo fuerit. In fine vo ecl  
pſis vel totalis obſcuratiois dictū arcū computabis a  
puncto incidente verſus orientē ſi angulus ſclerionis mi  
nor fuerit angulo meridianū orientali, aut verſus occide  
ntē ſi maior eo fuerit. Idē enī pacto offendit punctū ſcl  
erionis quæſitū. Sed illud nō eſt loco dīa pñcti eandem  
q̃ dicitur angulū ſclerionis eſſe aliquo quatuor angulo  
rū eclipſice ꝛ arculū altitudinis ſicuti pñctum ſubtrahere  
riolū reſiduum numerus quadrante equauerit: numerū  
quoq̃ in horiſonte a puncto incidente cōputandus non  
naginta gradus complecti. In ſe igit ſue ad orientē ſue  
ad occidentē cōpñcti in puncto ſclerionis deſinit: quan  
doquidē circulus ſclerionis horiſonti conſe ſolet in duo  
bus punctis per diametrum o poſito. Et vo talis num  
rus reſiduum quadrante ſuperauerit in ſummū numeri  
a puncto incidente computatū alioſim extendere. Itē ſi  
in erpoſiti doctrinā numerus ille ad orientē ſuppñtū  
dus et arcum occidētē verſus diriget. ꝛ vicierſa ſi pñ  
cti ad occidentē iam viſus orientē erit eſſe. De ſclerione itaq̃  
tenebimur ſufficere nunc vidēſi bōc paulatim. Nam ſi ad  
vnguentū omnia ad pñctum negotiū ſpectantia erit care  
pergat quipſiam: non tū cōmodum videbit ꝛ curioſus.  
quippe cū in præſenti traditione perinde locum ſumꝛ q̃ ſi  
lou occidētē nulla proſus latitudo viſa accidat: neq̃ mē  
tūna neq̃ circulus vmbicus vilum bobat diuerſitate ſe  
latitudinis. q̃d ꝛfecto aliter cūcurrere necesse eſt. Sol etenim  
nunq̃ bōc eclipſis videt niſi vortē boniſpñctū ſupio  
re occupet. Luna autē plerūq̃ partē diuerſitate aspect  
i latitudinis atq̃ idcirco aliam quidē eſſe verā: alia autē  
viſam latitudinē ne vulgarē quidē ignorant aſtronomi  
Quod ꝛ bōc circulo vmbice non inuaria cūmmandum eſt:  
quoniā equalem pñcti cū luna a cētro viſus habet remo  
tionē. Idcirco bōc atq̃ alia id genus vñ nihil vel parum er  
roris ſemibilibis operi iam dudū erpoſito poterit imiſce  
re. ¶ In exemplari ſuppñtatione ſacilius ſcilicet intel  
liges. Supponat aliqua deſcēſio ſolaris in regione no  
ſtrā in cuius fine ſol diſſet a meridianū orientē verſus p  
ſpaciū quatuor horarū equaliū. quāmobrē elenatio eſ  
ſupra horiſontē gr. 34. m. 46. Diſtantiā autē horiſontalis  
ab orientē equinoctiali gr. 3. m. 21. ad meridiē. Angulus  
borealis orientalis quē continet circulus altitudinis cū  
eclipſis in loco ſolus concurrere gra. 122. m. 38. borea  
lis occidentalis grad. 57. m. 22. Idcirco autē orientalis gra.  
57. m. 22. Idcirco autē occidentalis grad. 122. m. 38.  
Idcirco in præſenti caſu borealis orientalis dīſtatat co  
gniti neceſſarius erit. Idcirco autē latitudinē lune vi  
ſam borealem gr. 22. m. 22. vñus gradus. Cōgerat de  
mo ſemidiametrop viſualium ſolaris ꝛ lune. 12. minutias  
vñus gradus cōſpñctat. ſub qua quidē cōgrie in frōte  
tabellæ manuſcripte accepta quorū latitudinē lune viſam:  
et deſcēſio eius in duobus locis accepte colligo gr. 50.  
m. 17. bōc autē numerū niſi quā inuenio ſurta vñū gradū  
tabellæ generalis eſſe pñctum minor eo offeri mihi gr. 50.  
m. 19. ſub numero frontali. 57. Inter gra. 50. m. 19. autē ꝛ  
gra. 50. m. 17. differentiā cadit m. 18. quā quero in tabellā  
manuſcripta ſub. 14. ſecūdiū diſſerere trāſuerſal in ſurta vñū  
gradū poſiter ꝛ deſcēſio eius in latere deſcendentī offē  
do. 12. minutias. quas adiungo arcū ſi ſolali. 57. gradū  
ante ſervatū: vt cōſiderat angulus ſclerionis gra. 57. m.

32. In ſe igit modi autē angulū minor erit angulo boreali  
orientali gr. 122. m. 38. ſicq̃ manebit numerus reſidui  
gra. 65. m. 6. quē cū cōplemento altitudinis ſolaris gr. 55.  
m. 14. lateraliter in tabulam tranſierit mihi offerat arc  
us ille gra. 48. m. 10. Numerus denique cōplementū gr. 41.  
m. 50. cū cōplemento numeri reſidui antebac inuēti gr. 14  
m. 54. areatim in tabulam dēcēdo dicuntur gr. 19. m. 9.  
qui erit quadrante ſummo reliquū gr. 50. m. 51. arcū  
videlicet qui a pñcto incidente occidentē verſus num  
rari debet. Itā autē incidentie punctus ab orientē equi  
noctiali ad partē meridiē diſtat gradibus octo ꝛ 21.  
minutis. quibus ſi addicere gra. 50. m. 51. offēbit arcus  
gr. 50. m. 12. ad cū remotio pñcti ſclerionis ab orientē equi  
noctiali. Idcirco ſi libeat tale punctū ſclerionis ad meri  
dianū referre: cam inter orientē equinoctiale ꝛ meridia  
num quadra arcū lateat ſi memoratiū numerū gra. 50.  
m. 12. et nonaginta gradibus abſuleris: babebis in ſur  
tū gra. 30. m. 48. arcum videlicet horiſontis qui inter  
meridianū ꝛ punctū ſclerionis comprehenditur. Ita igit  
a meridianū directus ad orientem ſclerionis punctū indi  
cabit. In alijs autē caſibus niſi debitoris huius ingenio  
nunq̃ poſſitabz exemplariū calculum: cum erit ſummū  
memorata breui quodam diuerſicūto ſiquid vñum eſ  
ſe occupari poſſis. In hunc deſcēndum declinationibus arcū  
mediationibus ceteriſq̃ cuſmodi paſſionibus ſtellaris  
libet incumbere.

## Problema li.

**I**gnito loco vero ſtelle ſive fixe  
ſive erratice cum eius latitudine  
declinationem ſuam ab equino  
ctiali circulo ſciſcitari. Et locus ſtel  
le vñus ſi lo  
gitudinem in altero duoꝛum punctoꝝ tropicoꝝ fuerit  
declinationē talis puncti tropici ꝛ latitudinē ſtelle ſi pa  
ri denominatione ſuerint congregat: aut alterā erit altera  
bonē ſi diuerſa cognominata ſuſceperint. ſic enim decli  
natio ſtelle prodiit nūmꝛ mutatur nomē eorū arcū  
ex quibus naſcitur niſi quando per ſubtractionem elici  
tur: tunc enim maior arcus denominationē ſuam tribuit  
relicte declinationi. Altero autē punctoꝝ equinoctia  
lium ſtelle locum præbente intra latraliter cum latitudi  
ne ſtelle ꝛ complemento marine declinationis ſolaris.  
numerus enim in area tabulæ occurrere quæſiam prebe  
bit declinationē: eius quidem denominatione cuius ꝛ  
ipſa latitudo erat. Et vo alium locū ſtelle obtinere: ol  
ſtantiam eius a capite cuncti aut capicūm vñi ſcilicet  
vicini: fuerit cū maxima declinatione ſolaris lateraliter  
in tabulam mittas. quodq̃ angulus cōmūis offeret in  
uēti pñmū non minabis. Idcirco areatim ingreſſurū ta  
bulam cū complemento bñus inuēti pñm ꝛ cōplemento  
marine declinationis ſolaris. Nam eo quod latius deſcē  
dens dabit er. 50. gradibus deſcripto: tridū diſſeritū  
grā vocabulo inuēntū ſecūdiū boreale quidē ſi borealis  
et vñice medietas locū ſtelle preberit. aut ſi vñ  
reliquis eclipſice ſemirculū ſtellarū bōſpñctū recepe  
rit. In ſe igit modi igit inuēntū ſecūdiū latitudos ſtelle  
in vñū congregat ſi eadē denominatione fuerint: aut al  
terū erit altero auerſat ſi omnerſa ſomant denominationē  
neq̃ quodq̃ alterutro modop eliciat argumētū declina  
tionis appellari liceat. Id aut argumētū ſi ex collectio  
ne natū fuerit: denominationē ſuarū partū ſuſcipiet nā  
ſi per ablationē minoris ex maioris reliquū denomina  
CC 3



tio maiora ei debet. Deinde cum eo argumentum declinationis complementum inuenitur pium tabula lateraliter in gradibus et cunctis in area cuius ut afficit venabatur declinationis stelle quiescit. De his nullum enuncit argumentum declinationis: ubi videlicet inuenitur secundum latitudinem stelle eundem quidem numerum: omnes aut declinationes possident: unam quoque declinationem stelle pronosticabatur. Quicquid autem bacitur de stellis tradidimus: alius quoque celi punctus qui huiusmodi accommodari poterit: modo longitudinem quidem in ecliptica: latitudinem vero ab eadem habebat cognitas. Stelle postremo aut puncto celi cuiuslibet latitudinem nullam habent cum tribus declinatione: quia locus eius in ecliptica obstrictus. Preterea inuenitur sectionis equinoctialis perinde quasi ascensionem rectam accipitur: et cetera ceteris debita per tabulam ascensionum rectarum assignantur. quo cognito quantitas declinationis finis eius arcus formatur ex posantur. numerum cui talis declinationis ostendit postquam circuli latitudinis inter equinoctialem et eclipticam coprehensum. quod paulo superius inuenitur secundum appellabatur. neque cum inceptis radice declinationis quilibet agnominabit. Ultra itaque viam elegimus: nihil mea refert. Est enim animi impudentiarum non quicquam vias adpositum quodlibet ductus monstrare: sed vsum tabule generalis quodammodo verbis explicare. Cum in exipio visemus. Stella quodam locum longitudinis habet in principio arctis: cui declinationem borealem graduum. aut declinationem scitabatur bac via. Complementum maxime declinationis solaris graduum. 66. m. 30. cui latitudinem memorata lateraler in tabula transferro offert motus purgatus numerum ille graduum. 3. m. 30. quod notificat declinationem quiescit borealem quidem quoniam latitudinem stelle ad septentrionem vergentem. Cetera etiam locum versus cuiusque stelle finem longitudinis in quinto decimo gradu tauri. qui habet latitudinem aequinotialem septem gradibus. Quod declinationem eius ab equinoctiali circulo. distantia itaque loci eius a capite cancri quod est graduum. 45. m. 0. cum maxima obliquatione solaris graduum. 23. m. 30. meto lateraler in tabula: ut eliciat inuenitur primum graduum. 16. m. 23. Cuius conceptio complementum graduum. 73. m. 37. cuius complementum maxime obliquationis solaris graduum. 66. m. 30. arcum in tabula ductum mihi tantum offert arcus graduum. 72. m. 55. cuius residuum de quadrante graduum. 17. m. 5. voco inuenitur secundum borealem quidem quod semicirculus ecliptice borealis loci stelle prebetur. Cui rursus inuenitur latitudinem stelle borealem addico ut coterat argumentum declinationis: in borealem graduum. 24. m. 5. Quod tunc cum complementum inuenitur primum graduum. 73. m. 37. lateraler transferro in tabula erundo declinationem stelle aequinotialem graduum. 23. m. 30. In alio denique casibus pari proposita formula procedendum est: nisi quod argumentum declinationem et inuenitur secundum latitudinem stelle multasari nesci solet. Que res cum antea satis lucubrata esset: tum facilius admodum censeatur.

### Problemata liij.

**I**nvenitur ecliptice cum quo stelle qualeslibet celum mediat commonstrare. Quicquid stella in altero puncto: tropiconi sibi locum deligit: non aliud celi mediatio punctum expectat quod loci sui verum in ecliptica. Alibi autem si quaeratur stella: arctus ecliptice in loco eius desinent perinde quasi ascensionem rectam intelligat: arcus ecliptice tali ascensionem debitorum superius addice. qui quidem arcus baud absurdum occupabit radium ascensionis. cui serva diligenter.

Deinde non alter quam in precedenti eliciamus inuenitur primum lateraler tabula lateraliter cum maxima declinatione solaris et distantia loci stelle a cancro vel capricorno: utriusque vicinior fuerit. Aliter denique inuenitur primum celi complementum declinationis stelle aream in tabula ducto eripietur inuenitur secundum. quod rursus cum argumentum declinationis stelle lateraliter in tabula transferro. arctus in area reperitur: quod periculis appellatur distantia stelle per celi mediam addere. Tunc ascensionem antebac servare in semicirculo ecliptice debedendum loci stelle parietur: et declinationem ipse stelle fuerit borealis: aut locus stelle in semicirculo ascendentis datus fuerit cum declinatione meridiana. Aliter vero ostenditur transitus auster a radice ascensionis: loci eius in semicirculo ecliptice debedenti reperitur: et declinationem stelle auster inuenitur: aut stelle medietate celi ascendentis possidet arctus declinationis aequinotialem. Quod cum additione vel subtractione sicut res exposita inuenitur: ascensionem rectam ad eclipticam punctum ipsam: qui cum stella data celi mediat. Et quod denique recta ascensionem punctus ecliptice quod tus modo spe dicto inuenitur. Quicquid autem et talis ascensionem plures graduum. 360. gradus periculis: circulus unus est reperitur. Quod vero ex radice ascensionis memorata distantia transitus auster inuenitur: numerus totius circuli adnectendus est: ut cum summa cōstata possit fieri subtrahit. Illud denique non est agnoscendum: quod altero puncto ex nocturnalibus stelle loci prebetur maxima quidem declinatione: pro inuenitur primo: latitudinem autem ipsam stelle quod declinationem fuerit pro argumentum declinationis sumendum est. Potero si centrū stelle sub ecliptica sita fuerit: non arbitror te quiescit ire aliud ecliptice punctum quod cum ipsa stella celi medietate: preterquam si sub quo stella ipsa sita sit. Et denique preterea argumentum declinationis: huius quadrante circuli. tunc itaque numerus postremo per tabulam eliciamus in semicirculo ascendentis est: ut reliqua differre via transitus per celi mediam: qui qua deinde procedendum est utriusque punctum. Et si tale argumentum declinationis quod circuli equaverit: distantia quoque memorata a quadrante non differat. Sed obuertatur ad numerum ex capite arcus. Tunc si re quod punctum ecliptice a stella celi medietate: quod supra posuimus in quinto decimo tauri cui latitudinem borealem septem gradibus. fingo itaque distantia loci stelle a capite orientis id est graduum. 45. gradus tanquam ascensionem rectam. cui de ecliptica debedet arcus ille graduum. 47. m. 29. qui voco radice ascensionis. Deinde distantia loci stelle a capite cancri id est graduum. 45. gradus cum maxima declinatione solaris graduum. 23. m. 30. lateraler in tabulam ducto elico inuenitur primum graduum. 16. m. 23. quod rursus cum complementum declinationis stelle graduum. 66. m. 30. arcum in tabulam meto: ut emerget inuenitur secundum graduum. 17. m. 30. Cuius denique atque argumentum declinationis graduum. 24. m. 5. lateraler tabulam intrado ex capite numerum ille graduum. 73. m. 11. id est differentia transitus stelle per celi mediam. quod auster ex radice ascensionis graduum. 47. m. 29. quod admodum posito stelle erigit: et reliquis ascensionem rectam graduum. 10. m. 18. ad punctum quodam spectat. cui quod arcus ecliptice debedet graduum. 42. m. 46. a capite arctus sumo de inuenitur: id est graduum. 12. m. 46. tauri. punctum itaque huius ecliptice arcum terminans ad celi mediam unus cum stella proposita pugnare solet.

### Problemata liij.

**I**nvenitur declinationem stelle cuiuslibet lateraler quod antebac tradidimus est inuenitur. Cuius verum stelle loco fuerit in altero puncto equinoctiali intra ut primo lateraler cui latitudinem eius et complementum magis

me declinationis solaris, nā in angulo cōmuni habebit declinationē stelle quę sita est eisdem denominationis cū latitudine sua. Et autē dimidia eclipse borealis stelle loci preberit: intra lateralem cum complemento latitudinis et distantia stelle ab initio cancri, quodq; angulus cōmuni offert inuentum pūmū nominabis. Et cū de arcum ingrediēre cum complemento pūmū inuenti primi et latitudine stelle, eo nōq; quod in latere descendenti accipies et nonaginta gradib; sublatō: residū appellationabit inuentū secundū. Quod demū confer ad iuxta solus declinationē, nam si fuerit equale ei: et latitudo stelle septentrionaria extiterit: bene inuentū pūmū ex quadrante: et residū pro declinatione stelle teneto. Et si hoc duo inuicē collata fuerint inæqualia: alterum ex altero demet: reliquū feruas. Latitudine autē meridiana consistente inuentū secundū semper appone maxime solus declinationē, quodq; hoc pacto vel remanebit demūdo: vel constabit adiungendo sicuti res postulat: argumētū declinationis nācupet: boreale quidē semp qđ latitudo stelle ad septentriones vergit. Dum autē latitudo stelle austrina supponit: varium erit iudiciū. Nam si argumētū declinationis quadam circuli superauerit: ipsum ad huc boreale censibitur. Et autē extra quadrātem manifesti: meridiano donabitur cognomēto. Cōplemētū igitur huiusmodi argumētū cum complemento pūmū inuenti tabule lateraliter imittas. nūmerus enim arcualis mox perunigato elicitus declinationē ostendit quęstam: borealem quidē si argumētū sepe memoratū tale fuerit, austrinā vō si illud austrī sumptis agnominationē. Ut cū argumētū tali nonaginta ad vngitū gradus completēre nulla potius stelle tribuatur declinatione. Cū si austrinū eclipse semicirculū stelle possiderit: intrabie lateraliter cum distantia eius a capite capricorni et complemento latitudinis stelle, angulus cū cōmuni inuentū pūmū vbi supcrnas ubi reddet. Cū deinceps inuentū cōplemētū cū latitudine stelle arcum intra tabulā mittas, quodq; in latere descendenti oblatū fuerit et quadrāte minuas vt reliquū inuentū secundū. Cui rursus maximā solus declinationē semp adicias bñ latitudō stelle septentrionaria fuerit. Et autē meridiana extiterit latitudo ipsam inuentū secundū et maxime solus declinationē reuocet: aut e contra maximā solus declinationē ex incho secūdo, quodq; vel collectū fuerit vel residū putā ditas negotio borealē vocabo argumētū declinationis: meridiani quidē semp qđ latitudo stelle meridiana supponit. Latitudine autē borealē subiecta: si tale argumētū quadra circuli superauerit meridiani itē habebit, si vō min⁹ quadrāte fuerit: borealē suscipiet denotatiōne. Cōplemētū igitur talis argumētū declinationis cum cōplemētū inuenti primi tabulā lateraliter imittas, qđ cū in angulo cōmuni videbitur ex declinationē stelle quę sita: eius quidē denotatiōnis quā argumētū declinationis habebat. Ut cū si inuentū secundū equale fuerit maxime declinationis solis: latitudo qđ stelle meridiana: dempto inuenit pūmū et nonaginta gradib; relinqueret: de dlatio stelle austrina. Porro argumētū declinationis quadam circuli pascit completione stellam ab equinoctiali circulo nilquā fecerit permittere. Et exemplū quā. Reclinatur stella pūmū in quindocimo tauri gradu extitisse: ad septentriones remota septem gradibus. Et si autem eius a capite cancri 45 gradus cum complemento latitudinis gra. 33, m. 24. iuxta tenet preceptū lateraliter in tabulam mittas: excipio inuentū pūmū gra. 34. Cuius completū gra. 45, m. 24. cū latitudine stelle gra. 7, m. 4. arcum deinceps in tabulam dūcto elicitur gra. 3, m. 31. qui ex quadrante sumitū relinquit inuentū secundū gra. 26, m. 3. quod octavo maximā solus obliquo gra. 2, m. 3, vt remaneat numerus ille gra. 24, m. 10.

quem vocabo argumētū declinationis: boreale quidē qđ stella locū in dimidia eclipse boreali obtinet: latitudinis borealem. Quibus completū gra. 33, m. 21. cū cōplemētū inuenti pūmū gra. 45, m. 24. lateraliter in tabulam transferit mibi exhibet declinationē stelle gra. 21, m. 1. septentrionaria: quoniam argumētū declinationis a septentrionib; denotatur cū. Sed ponatur stella quę sita in medio tauri in longitudinē vt supra: cum latitudine austrina septem gradib; cum igitur in boreali inuentū in arcualis primi fuit equalis pūmū: inuentū pūmū vt antea erit gra. 44, m. 34. Idem quod ratione inuentū secundū reperet gra. 26, m. 9. Idem tale inuentū secundū maxime declinationis solis aduenit: stella meridiana obtinet latitudinis: cōtinet cōtinet argumētū declinationis gra. 31, m. 39. quod quā nonaginta gradib; superat boreale completabitur. Eius deinceps completū gra. 33, m. 21. cū completū inuentū primi gra. 45, m. 24. lateraliter in tabulam dūctū mibi offertur declinationē stelle gra. 2, m. 40. borealē denotatiōnis quā et argumētū declinationis cūcti. Ceteri casus exemplū calculi nō egredietur quia in eundem tractatibus reuolue nō pūgat. Habes tandē amice cōmuna declinationis supputatē formulas, quarū vram exercere velis arbitrio tuo conceditur: ergo si quando vñs fuerit poterit amplecti malum: est enim cum de uiculis latitudinis etiam alio quanto exercitatio.

### Problema lili.

**I**n punctum celi mediatiōnis alia quadam ratione perscrutari.

Et loquens stelle versus fuerit in principio arctus aut hinc intra tabulam arcum cum complemento latitudinis stelle et complemento declinationis eius, nam quod in latere descendenti offendit ex quadrante sumitū relinquit ascensionē rectā arcus eclipse qui inter locū stelle et punctū celi mediatiōnis continet. Eius cum duobus eclipse arcub; vtriq; equalibus debet: explorandū pūmū est in vtra quartum eclipse punctū celi mediatiōnis cūctat. Et alio ob punctum semper erit in medietate iocada austrina si latitudo stelle borealis fuerit, et e contra in medietate boreali si latitudo stelle austrina extiterit. Et nō satis comperto ascensio recta per certū problema ad punctum eclipse quęstū te perducet. Et autē locus stelle extra duos pūctā quinq; octava datus fuerit intra lateralem cum complemento latitudinis stelle et distantia eius ab altero puncto: tropicis: cui videbitur locus stelle vicinior fuerit, quodq; in angulo cōmuni offendit cum complemento declinationis stelle arcum in tabulam mittas, et eo qđ in latere descendenti occurrerit nonaginta gradibus reiecto manebit ascensio recta arcus eclipse qui inter equinoctialem et punctū celi mediatiōnis quęstus cōducit. Et ne cū duobus in vna medietate cūctū pūctū respondet arcubus ad huc non erit notū celi mediatiōnis punctū: nisi sciatur an ipsum fuit in eadē quartā eclipse et cū vero loco stelle an diuersa. Et res hoc pacto explorabitur. Et extra quatuor cū cardines stelle quę sita: intrabit tabulam nōtra lateraliter cum complemento maxime declinationis solis et distantia vtriq; loci stelle ab altero puncto tropicis: cuius quod in angulo cōmuni occurrerit completū cū maxime solus declinationē arcum tabule imittas. et cōplemētū eius quod in latere descendenti colligitur vocabis argumētū locale. Et itaq; verū locū stelle fuerit in medietate eclipse

et boreali: et latitudo stelle meridiana extiterit: vel quibus boreali: minus tamen argumentum localis loci: versus hunc locum in ecliptica borealis: implebitur: quicquid puncti celi mediantis: in medietate australis fuerit: et latitudo stelle borealis: vel si meridiana fuerit: minus quod argumentum localis: eadem quarta reperitur dicta duo loca. In medietate autem boreali: latitudo stelle septentrionaria excedit argumentum localitatis: autem in medietate australis latitudo stelle meridiana superat: autem in boreali: argumentum localis: duo loca predicta in boreali: reperitur quarta. Illas autem punctas celi mediantis: est minus arcus in semicirculo ecliptice: et ascendens fuerit: libet autem si reliqua ecliptice semicirculus stelle locum peruenit. Et in exemplo retractetur memorata stella: cui loci distantia in quinta decima parte tauri: cum latitudine boreali septem graduum. Unde et declinatio eius agnoscitur: et erodatur gradus 21. et 31. 3. igitur complementum latitudinis in gradus 33. et 28. cum distantia a capite canceri gradus 43. et 10. later aliter in tabulam traducuntur: ubi excoletur inuenitur in primis gradus 44. et 14. Quod rursum inuenitur in cum complemento declinationis stelle gradus 66. et 37. arcum in tabulam mittendo excoletur numerus illic gradus 49. et 42. Cum demptas ex quadra circuli relinquitur gradus 46. et 11. Ascensionem videlicet rectam que spectat ad punctum celi mediantis quaeritur. Quic autem ascensionem recte a rectatione veritatis initium sumit de ecliptica respondet in signorum seriem duodecim gradus et quatuordecim gradus: in tauri. Contra subsequenter 70. signorum gradus. 17. et 14. quare. Quamobrem stelle 70. posita cum in altero punctum terminantur: arcus predictus celum medietate solet. Sed quoniam latitudo stelle est borealis: minus quod argumentum localis: veluti tamen apparet: necesse est punctum celi mediantis in ea quarta ecliptice offere: in qua loci longitudinis ponatur: ad eam in quarta veritatis. Idcirco igitur finem duodecim gradus et quatuordecim gradus: tauri vna ad meridianum peruenire cogitur cum stella posita. Idcirco ad argumentum locale inueniendum appellatur a prima. Complementum maxime declinationis solaris gradus 66. et 10. cum distantia loci stelle a cancro capite gradus 43. et 10. later aliter in tabulam serena mor offe id gradus 49. et 15. Cum complementum gradus 49. et 15. cum in maxima declinatione solari arcum in tabulam mittendo hunc numerum anteposui gradus 11. et 15. Cum complem. tum gradus 58. et 15. voco argumentum localis: puncto celi mediantis locum definire solet. Unde igitur vel latitudo stelle borealis septem graduum multo minor est tali argumento: atque idcirco punctus celi mediantis cum vero loco stelle: quemadmodum paulo ante diximus: eandem ecliptice quadram possidere coguntur.

Problema IV.

**Q**uod data sit stelle declinationes punctus ecliptice cum quo ipsa celum medietate latitudinis suae ac verum locum in ecliptica cognoscere. Et de stella sermocinabimur latitudinem habere: nam cum que non habet: frustra querat latitudinem. Et cum autem stella quilibet propolita latitudinem habeat: et eclipticam: ubi declinatio stelle

et declinationis puncti celi mediantis equali numero et par denominatione fuerit: et si ab eodem latitudine huius locum in ecliptica borealis: implebitur: quicquid puncti celi mediantis: in medietate australis fuerit: et latitudo stelle borealis: vel si meridiana fuerit: minus quod argumentum localis: eadem quarta reperitur dicta duo loca. In medietate autem boreali: latitudo stelle septentrionaria excedit argumentum localitatis: autem in medietate australis latitudo stelle meridiana superat: autem in boreali: argumentum localis: duo loca predicta in boreali: reperitur quarta. Illas autem punctas celi mediantis: est minus arcus in semicirculo ecliptice: et ascendens fuerit: libet autem si reliqua ecliptice semicirculus stelle locum peruenit. Et in exemplo retractetur memorata stella: cui loci distantia in quinta decima parte tauri: cum latitudine boreali septem graduum. Unde et declinatio eius agnoscitur: et erodatur gradus 21. et 31. 3. igitur complementum latitudinis in gradus 33. et 28. cum distantia a capite canceri gradus 43. et 10. later aliter in tabulam traducuntur: ubi excoletur inuenitur in primis gradus 44. et 14. Quod rursum inuenitur in cum complemento declinationis stelle gradus 66. et 37. arcum in tabulam mittendo excoletur numerus illic gradus 49. et 42. Cum demptas ex quadra circuli relinquitur gradus 46. et 11. Ascensionem videlicet rectam que spectat ad punctum celi mediantis quaeritur. Quic autem ascensionem recte a rectatione veritatis initium sumit de ecliptica respondet in signorum seriem duodecim gradus et quatuordecim gradus: in tauri. Contra subsequenter 70. signorum gradus. 17. et 14. quare. Quamobrem stelle 70. posita cum in altero punctum terminantur: arcus predictus celum medietate solet. Sed quoniam latitudo stelle est borealis: minus quod argumentum localis: veluti tamen apparet: necesse est punctum celi mediantis in ea quarta ecliptice offere: in qua loci longitudinis ponatur: ad eam in quarta veritatis. Idcirco igitur finem duodecim gradus et quatuordecim gradus: tauri vna ad meridianum peruenire cogitur cum stella posita. Idcirco ad argumentum locale inueniendum appellatur a prima. Complementum maxime declinationis solaris gradus 66. et 10. cum distantia loci stelle a cancro capite gradus 43. et 10. later aliter in tabulam serena mor offe id gradus 49. et 15. Cum complementum gradus 49. et 15. cum in maxima declinatione solari arcum in tabulam mittendo hunc numerum anteposui gradus 11. et 15. Cum complem. tum gradus 58. et 15. voco argumentum localis: puncto celi mediantis locum definire solet. Unde igitur vel latitudo stelle borealis septem graduum multo minor est tali argumento: atque idcirco punctus celi mediantis cum vero loco stelle: quemadmodum paulo ante diximus: eandem ecliptice quadram possidere coguntur.

stelle borealis fuerit quantacumq; aut meridiana; minus quidem dicto argumentum locale punctum celi mediatio-  
nis et locus stelle verus in eodem quadrante egyptice  
constituitur. Si autem declinatio meridiana memo-  
ratum argumentum locale superaretur in diversis quan-  
tibus reperitur pacta predicta. Similiter si punctum ce-  
li mediatio austrina egyptice medietate possideret  
et declinatio stelle meridiana fuerit quantacumq; aut bo-  
realis minus quidem argumentum locale eadem egyptice  
quadrans verum stelle locum et punctum celi mediatio-  
nis recipiet. Si autem latitudo borealis predictum  
tale argumentum vicerit; in diversis egyptice quartis  
predicta loca existit. Quia si hic quidem declinatio meridia-  
na aut stelle borealis argumentum locale equaverit; lo-  
cus stelle verus in altero punctum equinoctialium bo-  
realem eo saltem quod est in semicirculo egyptice stel-  
larum recipiet et ad tropicos declinet. Et si declinatio  
hanc exemplarem acceperit punctum. Stella quae-  
dam motus eorum cum sine sex gradibus leonis. Cum  
declinatio borealis sit grad. 17. min. 49. Et ita libi qui-  
piam tribuerit latitudinem eius stelle cui vero loco in egypti-  
ca. Et punctum celi mediatio borealem habet decli-  
nationem grad. 18. min. 49. Quia autem et declinatio stelle  
le; quando quidem eadem sunt declinatione; et relin-  
quuntur gradus nonnulli. quos cum angulo egyptice et  
meridiana apud punctum celi mediatio posuerimus  
qui est grad. 7. min. 41. later autem in tabula generali  
ducimus; ubi offertur latitudo stelle grad. 18. min. 41. borealis  
mibi offertur declinatio stelle borealis crucis superet  
declinationem puncti celi mediatio. Itaque locus ve-  
rus stelle queratur. Alitellum recta quae debetur arcui egypti-  
ce inter caput cancri et punctum celi mediatio. Co-  
dulo est grad. 18. min. 24. Et nam cum complemento  
declinationis stelle grad. 62. min. 1. later autem in tabulam  
ducimus iuxta praecceptum elicio gradus triginta et unum  
minuta declinationem. Hunc deinde numerum cum com-  
plemento latitudinis stelle grad. 18. min. 17. arcum in  
tabulam mittimus mibi offertur grad. 33. min. 45. distantia  
scilicet veri loci ab altero punctum tropicorum. Si itaq; ve-  
rus stelle locus et punctum celi mediatio in eadem egypti-  
ce quarta existit; iam nemo dubitaret quod verus stel-  
le locus in grad. 33. min. 45. leonis existit. Et si in diversis  
quartis deprehenderet; cum punctum celi mediatio sit  
in quarta citius; necessario locus stelle verus in quodam  
autumnali id est grad. 16. min. 15. coequi reperiret. Ceterum  
punctum celi mediatio sit in semicirculo egyptice bo-  
reali; et declinatio stelle borealis existat; necesse est finem ante  
dicta verum stelle locum esse in eadem quarta cum puncto  
celi mediatio. Quia si stella habuerit declinationem meri-  
dianam; anteprae fuerit de loco eius vero enunciatio. Quia  
quod ambiguitatem me exiret hoc pacto. Alitellum  
recta quae antea videri videtur grad. 18. min. 41. vna cum comple-  
mento maxime declinationis solari grad. 66. min. 30. mittitur in  
tabulam lateralem; eliceret grad. 34. min. 43. Huius numeri  
complementum grad. 55. min. 17. cum maxima declinatione solari  
grad. 23. min. 30. arcum deinde transferret in tabulam excederet  
grad. 29. min. 1. complementum huius grad. 69. min. 59. vocarem ar-  
gumentum locale. Cui deinde conferrem stelle declinationem  
meridianam. Nam si ipsa declinatio minor esset tali ar-  
gumento locale; proculdubio in eadem quarta reperiret  
ur punctum celi mediatio et verus stelle locus. Si aut  
declinatio superaret tale argumentum; in diversis quar-  
tis constitueretur. Et si aequalis esset declinationi tali ar-  
gumento; verus stelle locus in principio huius haberet.

Problemata lvi.

**L**ignita latitudine cuiuspiam  
stelle: punctumq; celi mediatio-  
nis explorato: locum eius ve-  
rum in egyptica: declinationeq;  
ab equinoctiali circulo perquirere.

Hoc problema pergitale est ad loci stellarum stra-  
rum inquirenda. Nam si aliquam earum in meridiano  
obseruaueris; hoc punctum celi mediatio coniecta-  
bis per notitiam loci solari utiq; temporis inspectio-  
nis tue respondenda. Et si latitudinem autem eius abis vltio  
supputationis dispendio comparabis; numerum quo  
latitudo istiusdem habet. Intra igitur arcum  
cum latitudine stelle et angulo quem meridiana cum egypti-  
ca apud punctum celi mediatio complexetur; me-  
ridianam in latere decedente collectum seruum. Cum sua de-  
clinatione aequilonia vel austrina. Dabit autem nu-  
merus ille semper eam declinationem qua sunt praepo-  
sitae latitudo stelle. Et ostendat declinationem puncti celi me-  
diatio addite. Cum sua item declinatione. Quam  
quidem declinationem iunge numero primo seruato; si ea-  
dem utrobq; declinatione fuerit; et conuerset declina-  
tio stelle quae sita; cum sumptura declinationem qua  
insigne erant partes sup. Ceterum si inueneris declina-  
tionem puncti celi mediatio et numerum antea serua-  
tus diuersus fuerint declinationibus; minorem et ma-  
iori deinde utriusque declinationis stelle; cruenta de-  
clinationem maiorem numerum; vide videlicet si ab subtra-  
cto. Jam deinde loco stelle mensurando vna parata est.  
Nam cum declinationem eius explorata doctrina man-  
festet; punctum autem celi mediatio ab latitudo suppo-  
sitae sit; locum quoque verum eius finem longitudinis 304  
diaci non ignorabis; praecedens problema forma.  
Iam memo iter tenetur. Et quae res exemplo beneficii  
lo poterit illustrari; si stelle cuiuspiam latitudinem borea-  
lem sex gradibus supposituramus. Quae quidem eorum me-  
diat cum sine viginti quatuor gradibus tauri. Nam angu-  
lus meridiam et egyptice apud tale punctum promouena  
septuaginta sex gradus complexetur. Quam cum lati-  
tudine memorata grad. 6. min. 0. arcum in tabulam fe-  
renti mibi offertur numerus ille grad. 6. min. 1. borealis  
quidem et latitudo stelle ad aequilonem vergat. Declina-  
tio autem puncti celi mediatio sit grad. 19. min. 4.  
et eadem borealis. Cui idcirco superaddere debeo grad. 4.  
min. 1. ut collectus numerus grad. 23. min. 15. praedat declina-  
tionem stelle aequilonem quidem et utroq; numerum con-  
iunctum aequilonem cognomito fuerit. Deinde et iam illud  
multa declinatione atq; puncto celi mediatio iam dicta  
supposito loci stelle verum deinceps querere non iuuat  
ne contempno iugatos afficiat; quidem calculus praec-  
dentis problemata abunde idipsum et promptum.

Problemata lvii.

**I**antum egyptice quoque stel-  
la quelibet oritur: iteq; punctum  
cum quo occidit in quavis re-  
gione artificiose rimari.

periosa problemata punctum egyptice cum quo stella

tua celum mediat: ascensionem rectam arcus egyptice ad tale punctum declinatus, quam etiam non iniuria ascensionem rectam stelle licet appellari, 13. c. item ex duobus decimo problemate arcum semidiarum stelle cuius et semidiarum equinoctialis: qui est nonaginta graduum differentie etique ascensionalis differunt nuncupati afectioni recte memorate autem stelle declinatione meridiana habuerit, aut ex eodem minus si septentrionariam obtinuerit declinationem, quod sic operando eueniet ascensio obliqua arcus egyptice terminati ad punctum quod cum ipsa stella conuenit. Hinc ergo ascensionem obliquam quante egyptice arcus dicitur, quemadmodum superius tradidit est animaduertere, id enim egyptice arcus ad punctum quod sit perueniet. Et si stella in equinoctiali fuerit: afectione recta arcus egyptice qui ad punctum celi medietatem definit erit a afectione obliqua arcus egyptice cuius finis cum ipsa stella conuenit. Porro si arcus stelle diurnus tali afectioni obliqua tamlicet elicit aduerteris constabit afectione obliqua arcus terminati ad punctum egyptice quod in boreonte orientali constituit dum stella ipsa occidit. Cuius per ascensionem obliquam punctum cognoscet punctum et per diametrum oppositum cum quo videlicet stella tua occidit. Idem etiam ascensionem obliquam habebis si ascensionem recte qui arcus egyptice ad punctum celi medietatem definit respiciet: id est recte ascensionem stelle quadranti circuli cum arcu stelle semidiarum adiungas. Et si differentiam ascensionalem stelle propolite habebis declinationem septentrionariam ascensionem sue recte adiungas: aut bini modis ascensionalem differentiam stelle declinationem meridianam habebis ex ascensione recta dempsit: constabit autem reliquum descensio obliqua puncti egyptice cum quo stella ipsa occidit, que band abinde descensio obliqua ipsius stelle nuncupabitur, cui semicirculus oppositus conficiet ascensionem obliquam ascendente per diametrum oppositi puncti egyptice cum quo stella tua occidit. Cuius ascendente cognito occidentalem quod punctus egyptice cum quo videlicet stella occidit band quod si ignorabit. Et hoc etiam per numeros exemplares hinc incidit, Reperat stella cui paulo superius locum dedimus in quindecimo tauri gradus: cum latitudine aequilonis septem gradus, unde declinatione quide forisbat gra. 2. m. 1. septentrionaria. Ascensionem vero recta gra. 40. m. 18. Etiam nam reddi certior quo egyptice punctus cum ea conuenit in regione boreali que ab equinoctiali plagis remouetur 48 gradibus. Per duodecim igit problema inuenio differentiam ascensionalem memorate stelle gra. 29. m. 12. extracta peno ortus amplitudine gra. 35. m. 49. quemadmodum inibi precepit. Hec differentia ascensionalis adiecta quadranti quomodo declinatio stelle borealis est: constabit arcum eius diurnum gra. 1. 18. m. 12. Idem enim semper numerus differentiam ascensionalem stelle mittitur a differentiam arcus semidiarum sui semidiarum equinoctialis. Et hanc rursus differentiam aufero ex ascensione recta stelle gra. 40. m. 18. et reliquum numerus ille gra. 12. m. 6. id est ascensio obliqua stelle: que etiam est ascensio obliqua respondens puncto egyptice qui vna cum ipsa stella conuenit. Si autem egyptice punctus terminet gra. 26. m. 48. arithmetica quoniam tanto arcus debet afectione obliqua memorata in latitudine 48. gradibus. Idem ad gradus stelle nonne occidit calculis dirigatur. Arcus semidiarum stelle erat gra. 1. 18. m. 12. qui duplicatus conficit arcum diurnum gra. 2. 36. m. 24. Cum ad hoc obliqua afectioni stelle gra. 1. 18. m. 6. ut conueniat summa gra. 2. 54. m. 30. Id est afectione obliqua afectionis dum stella occidit: quod quidem afectionem ipsum depoponit gra. 30. m. 4. scilicet. Cui per diametrum oppositum gra. 20. m. 1. tauri. Quibus itaque arcus

extrema minuitis in boreonte occidit vna cum stella propolita solet constare. Nam pateret afectionem obliquam afectionis dum stella occidit constructum si recte afectionem stelle gra. 40. m. 18. adiungas: arcum sub semidiarum gra. 1. 18. m. 12. cum quibus circuli 90. gradibus. Et si stelle borealis propolite obliquam declinationem nostris libet: etque afectioni eius gra. 29. m. 12. adueniet afectionalis iam dudum inuenta gra. 2. 54. m. 30. adueniet afectionis constructur arcus gra. 26. m. 48. Cui si amplius semicirculus adieceris: quod solis declinationem occidit atque afectionem ostendit differentia: etiam iterum videbo afectionem obliquam afectionis dum stella occidit gra. 2. 54. m. 30. cuius officium band quoniam ignotum esse arbitror.

## Problema lviij.

**D**et altitudine stelle cuiuscunque et distantia horizontalem a meridiano atque medius celi declinationem ipsius stelle et punctum egyptice cum quo celum mediat: indeque latitudinem et verum locum eius in egyptice sub illis indagare.

<sup>C</sup> intra latitudinem et distantiam a meridiano et complementum altitudinis stelle, quodque habet angulus communis inuentum primum appellato. Cum cuius inuenit primum complementum et altitudinem stelle arcum tabulam nostram ingredere, et eo quod in latere descendenti accipitur et nonaginta gradibus de quo: restum vocabis inuentum secundum. Cuius quidem complementum altitudinis poli adicias si distantia horizontalis a meridiano minor quadrante fuerit, si vero maior eo reperitur: inuentum secundum ex complemento altitudinis polaris: aut viceris minus accipiet a maiori auferat, et quicquid sine additio sine subtractione reperit inuentum tertium nuncupabitur. Intra idem itaque lateraliter cum complemento duorum inuentorum primi et tertii reperies in angulo communis declinationem stelle quoniam: septentrionariam quidem si inuentum tertium minus quadra circuli fuerit, meridianam autem si maius ea crititerit. Et si equalis quadranti occurrerit stella ipsa declinatione circuli. Talem si distantia horizontalis a meridiano nonaginta ad vnguem gradus complectitur: intra tabulam Latet aliter cum altitudine stelle et latitudine regionis offertur in angulo communis declinatione stelle quoniam: borealis quidem semper in regionibus aequilonis: meridianus vero in habitantibus austrinis. Sub equinoctiali autem circulo nulla in hoc casu eueniet declinatio. Et si horizontalis distantia a meridiano quadam circuli superste inuentum secundum complemto altitudinis polaris equalis occurrat: subtrahere inuentum primum et nonaginta gradibus, sic nuncupabitur arcum ipsum inuentum primo et complementum declinationis stelle quodque in latere descendenti reperies afectionem recte medii celi ad longum si stella tua circa meridianum fuerit, et ex eodem minus si meridiano transierit, et quod sic agendo conueniet erit afectione recta stelle ad arcum egyptice definitum ad punctum cum quo stella ipsa celum mediat. Extracto igitur et arcu quemadmodum



superiora perducere ad punctum cum quo stella talis celum moratur. Hoc quidem certa sunt vniuersaliter quando distantia horizontalis a meridiano minor est quadrante circuli: vel quia maior quadrante: ubi tamen inuenti secundum minus est complementum altitudinis poli: ubi quia tunc inuenti secundum minus est complementum altitudinis polaris: aliud quod p inuenti primi et complementum declinationis arcui introitus repperit ex semicirculo minuat: quodque relinquet altitudinem recte medi celu per adiungas: vel ex ea minuas: veluti sitis stelle respectu meridiani borealis. At si inuenti secundum et complementum altitudinis poli se equauerint: altitudinem recte medi celu quadrante circuli adicias: si stella nodu ad cardine regum peruenit: aut ab ea demasit: eundem traheret. Ceterum stella proposita meridianu possidente absque ylio ferme dispendio voluntati tue satisfacias. Nam medi celu notu hic supponit: quod inuentu ad quatuor boreu pulgata sit. Altitudo autem meridianae stelle ad elevationem equinoctialis circuli collata declinatione liqua fuerit: manifestabit. Nam si beneuolendi elevationem super boreum fuerit: qualis: nullam stellam sibi declinationem videri debet. Si autem elevatio stelle meridianae elevationem equinoctialis circuli supergradiat: offerretur earu pro declinatione stelle boreali accipies. Et si viceversa elevatio equinoctialis altitudinem stelle meridianae vicerit: differentia earum austrina stelle declinationem erit propter. Idem declinationem aut stelle gradus celu mediationis quo pacto latitudo stelle et verus locus eius in egyptica deprebendat: quod quinquagesimo problema satis lucubratur. Et Corollarium inagnum. Latitudo stelle supra boreum constituta locu veru in egyptica latitudine eius: si qua habuerit: inuestigare poterimus non expectando si lubet positio: enim meridianus neque astronomicus annulari neque totum: aut alto quo instrumeto difficili opus est. Veru sola meridianae linea sufficit cum instrumeto quacunque ad elevationem stellaru accomodabili. Linea namque meridianae officiu erit ad distantiam horizontalis stelle a meridiano deprehendi: si paruo quodam admihiulo suffulata fuerit: id est circulo boreali in gradus sexaginta et trescentos dimidio: quemadmodum in libro instrumetorum astronomicorum ab uno me tradit. Et tamen medi celu omnia borea nemo nisi rudissimus nesciat inuenire. Idemque autem hoc nostru a praecipua regionibus dimittat septentrionalis accomodari: ubi soli stellaru motus considerari plerique solent sunt. In habitationibus autem austrinis quibidam alio causu unicus opus est: quae impresentiaru missas facinuas: in vsum nostru manere videntur sunt. Et predictorum exempla subiungere libet. In regione latitudinis habente 48 gradus celu mediu habet. 17 gradus geminorum qui stella quodam altitudinem habet autem meridianas gra. 61. m. 0. distantiam borealem a meridiano gra. 15. m. 0. Volo inquirere locu eius veru tam in longitudine quam in latitudine. 3o autem officium si prima declinatione eius explorauero punctu celu mediationis. Nam per quinquagesimumquintu problemu vero deinceps loco eius agnoscebo via paraf. igitur distantia eius borealem a meridiano gra. 15. m. 0. cum complemento altitudinis stelle gra. 27. m. 0. lateraliter in tabulam mittenti mihi mor offeratur inuentu primi gra. 15. m. 0. Cuius complementum gra. 74. m. 34. cum altitudine stelle gra. 41. m. 0. arcum demu in tabulam buccio elictur numerus ille gra. 67. m. 21. qui demptus ex quatuor circule relinquit inuentum secundu gra. 22. m. 19. Huius abdo complementum altitudinis polaris gra. 42. m. 19. ut conseruat inuentum tertiu gra. 64. m. 19. Distantia enim borealis a meridiano minor est quadrante. Deinde complementum huius inuenti tertii gra. 25. m. 21. cum complemento inuenti primi gra. 74. m. 34. lateraliter in tabulam tranffero: et in

angulo communi sum precepta inuenio declinationem stelle gra. 24. m. 15. borealem: quoniam inuentu tertiu minus est quadrante circuli. Porro ascensionem rectam stelle hoc pacto mencitur. Complementu iam inuentu declinationis gra. 45. m. 15. cum inuentu primo gra. 15. m. 0. arcum tabule inferendo elictur differentia ascensionu rectaru stelle et medi celu gra. 16. m. 17. quam abdo ascensionem recte medi celu gra. 75. m. 32. sic eni colligitur ascensio recta stelle gra. 59. m. 29. Cui debetur gra. 2. m. 1. 6. cancri. fuit igitur buri arcus egypticus: etiam celum cum stella proposita. Et quo demum consumpta declinatione iam dudum cognita: si rite memineris: quae in quiquagesimo quinto problemae trahta sunt: verum locu stelle sum longitudinem in egyptica latitudine: quod ad hocce. Sed ad eum rem non est opus puncto celu mediationis: cum satis sit nouisse ascensionem eius rectamque et ascensio recte sic licet dicitur. Reliquos vero casus cum hac eodem ferme supputationis formulam teneant missos facimus: ne ingenium tuum superuacuae dictione remoueamur.

Problema lix.

**S** vera loca duarum stellarum fixarum cognita fuerint cum latitudinibus suis: intercapedinem earu agnoscere. Et ante bac simile problema eodem modo duobus quibilibet locis in superficie terrae signatis: tamen cum vocabula hic et ibi diuersa sint: libet propriam problematis absoluti omnes conscribere: quo res ipsa cogniti facilius redderetur. Stellarum igitur latitudines sola differentium deinceps habebis distantiam si latitudines vnius et latitudinem alterius dempseris: dum eodem habuerint denominationem. Nam si diuersa fuerint denominationes: eas in vnius congregare oportet ut conseruat intercapedine quaesita. Si autem sola longitudine different: nullam habentia latitudinem: distantiam earum arcus egypticus duobus locis veris interclusus manifestabit. At si latitudines habuerint aequales: subtrahat longitudinem vnius earum a longitudinem alterius: immo item videlicet a maiore: ut remaneat differentia longitudinalis. Voco autem longitudinem stelle distantiam veri loci sui in egyptica a capite arcus. Deinde intra tabulam nostram lateraliter cum dimidio dicte differentie longitudinis et complemento latitudinis veriusus stellarum. Nam duplum eius quod in angulo communi occurrit intercapedinem stellarum quaesitam metitur. Quia si latitudines inaequales habuerint stelle propositae circulum quidem denominationis: intra laterali ter cum tota differentia longitudinalis et complemento latitudinis maiori. quodque in angulo communi offerretur inuentum primum nominabis. Cuius inuenti complementum cum latitudine maiori arcum in tabulam mittas. numeri enim in latere descendenti sinistro occurrunt: complementu et complementu latitudinis minoris demptu relinquet inuentu secundu. Complementum itaque bonu mueto lateraliter in tabulam buccio habebis in angulo communi intercapedinem stellaru quae quaerbas. Latitudinibus autem variis denominationibus habebis: intra vtriusque laterali ter complementu latitudinis borealis et differentia longitudinalis: ut angulus communis praebet tibi inuentum primum. Cuius demptu inueni complementum cum latitudine septentrionalis tabulae arcum inferas. numerum enim latere sinistro descendenti aduersus latitudinem meridianae









Itorum quattuor modorum veluti res bortatur eueniet  
tabule lateralter immittas cum arcu hunc gradum in  
angulo nunc communi equatione offendere quibus. Hoc  
quod pacto clides equatione octauae sphaere conuenit ei  
quam probet alios inus abacus. Utrum binauerim  
equatio non respondet suppositioni quae sphaera ipse et  
eius secretaria inuenit: quomodo in commentaria  
astronomica adnotamus. Quod tolerandum non sit in  
parte an puncta respiciendum non est nunc locus  
differere. Ceterum in suppositione ipsa firmissime quod  
babeat tamen si uis astronomia band dubitet inibi  
diffusius incubitatem. Itaque ante perinde quod omnino  
stabula sit hoc conuersatio de motu celi stellati sermo  
nem faciemus: calculi et expolitur mathematica demon  
strationibus congruunt. Et igitur equatione binauerim  
si recte computare libet: motum accessus et recessus ut  
vocalibus peruenit uerumtamen superius monitum est  
piscinas: quod quidam menses fuerit: nonaginta gra  
dibus aucta: ut. Et si maior eo: semicirculi aut non atin  
gens: demet eo quodam circuli et uis et serua. Et aut  
quodam circuli superauerit: et 120 gradus maneat  
ipsum et 120 minutas. Et si tres circuli quatuor uicerit:  
et eo 120 tollas: ut residuum operi futuro uisum sit. Ma  
xime ita et alio quodam modum clides latera  
liter in tabula: ut cum nouem gradibus. Numerus in  
area collecti complementum cum 31 gradibus aream  
demet in tabula transierit. Quod enim in latere descen  
denti occurrit: et quodam circuli descensum equationis  
quidam relinquitur quoniam: addenda quidem quodam  
motus accessus et recessus octauae sphaere minor: semicir  
culi supponitur. Minus autem quodam maior. Quom  
am nullo numero expressit: motus ille: nulla quod  
equatione reddi potest. Quod et accidere perhibet motus  
accessus et recessus semicirculi equale. Quia si quatuor  
circuli ad uincum complectitur: aut tres quatuor  
manum in sphaera poscit equationem nouem gradibus  
quod addenda nunc uisum est. Et exempla huius  
problemata. Quod argumentum octauae sphaere: quod  
vocat motum motum accessus et recessus 25 gradibus  
qui debentur equatione: sibi quodam reddi possit. Quo  
nam ita et argumentum illud et minus quodam circuli  
minor ipsum later alter in tabulam cum non gradibus  
quodam motum primus uocatur motus: et clides equatione  
in gradibus 31. 41. 54. 25. Et in sphaera demonstrationis  
geometricae calculi et 60 uisum est: quodam 25 gradibus  
argumenti et quodam circuli est autem gradibus 54. 51. 40. quod  
una cum nouem gradibus later alter in tabulam ducti  
milia offertur numerus alle gradibus 2. 11. 19. Cuius complemen  
tum gradibus 37. 11. 41. cum 31 gradibus aream in tabulam  
transierit: clides arcus ille gradibus 31. 11. 19. Cuius com  
plementum gradibus 31. 41. equationem manifestabit quesi  
tam. Quod iterum quodam equale primo clides equatio  
nem tamen opus dixerim sit. Utrum si paulo curio  
sior fiat suppositio uisum est secundas minutas: aliqu  
tula profecto differencia fenietur.

semicirculum. Quas tres quatuor si aliquando uicerit  
ipsum et toto circulo aucta quodam sit agere de pmo  
tur later alter tabule immittas cum quatuor gradibus  
et 12 minutas. Arcus qui in angulo communi occurrit ca  
21 gradibus et 40 minutas in tabulam arcum trahe  
babeat cum in latere descendenti equationem quesi  
tam. Quodam quidem quodam motus accessus et recessus  
minor est semicirculo. Minus autem quodam maior. Quod  
quodam rationcula manent quatuor octauae sphaere qua  
lis est in tabula tolerans. Et abitur partem et suppo  
sitione debet: quod aliquando uisum est uocet. Quodam  
supponit angulum contentum ab equatore et edypica  
octauae sphaere semper esse gradum 2. 11. 19. et minutum 46.  
Qui quidem angulus uisum est pro tempore sonitum mas  
gnitudinem: si assertionis tibi fides habenda est. Et si  
omnino ad suppositione esse de motu octauae sphaere in  
uis uisum est: pro tempore equatione agnoscas: et quodam  
metas uisum est. Et argumentum octauae sphaere  
adde gradus vigintitres: minutas primas 13 cum se  
cundis 14. 10 et inclinationem edypice fere ad equato  
rialem circulum auctoris quodam circuli. Quodam col  
legitur serua pro primo numero introitu: si quodam  
minus quatuor. Et uisum est facias quatuor circuli: minus  
quodam semicirculo: subtrahit ipsum et dimidio circulo  
et reliquum tene pro primo numero introitu. Et si se  
micirculum superauerit: extra tres quartas maneat: se  
micirculum et eo maneat: residuum scrualo. Et denique  
tres quatuor uicerit: tale collectum et toto circulo  
reue: et residuum pro primo numero introitu. Et gradus  
Secundo uisum est numerus introituale semper est gradus  
quatuor cum minutas. 19. 10 et semicirculo arcuali  
pari circuli. Quodam ergo numero introituale in tabu  
lam later alter mittere. Quodam prohibet angulus com  
munis inactum primum maneat. Denique eundem  
numeri gradibus 4. 19. cum complemento sociu  
est numeri quem antea et later alter in tabulam in  
fisi later alter denique introde: et complementum uisum  
est in latere descendenti ut afficit oblatus uocabit  
uentum secundum. Quod denique inactum secundum  
cum gradibus vigintitribus: minutas primas trigintatres  
et secundas triginta later alter in tabulam transierit: et  
numerum in area occurrentem appellatione motus ter  
tium. Cum clides inuenit tertio complemento ac comple  
mento inuenit secundum tabulam arcum ingrederet. Nu  
merus in latere descendenti collectum uocabit inuen  
tum quatuor. Quod in super quatuor inuenit cum gradibus  
vigintitribus: minutas primas trigintatres: et secun  
das triginta tabule later alter mittere: et quodam  
in angulo communi occideret et quatuor minutas: si  
collectum et quo superius numerum introituale pri  
mum clides minus quatuor et facit: aut minus trius  
quartas. Et ipsum numerum anguli communis quatuor  
adiungas: tale collectum minus quatuor: et minus  
tribus quatuor circuli facit. Quodam et binauerim ad  
ditione vel subtractione nascitur: ueluti res postulat  
natura inuenit primo ad quatuor collecti piscatum mi  
nus semicirculo. Quodam autem et eo minus inuenit pri  
mum: si congrua memorata semicirculi uicerit. Quodam  
autem et quodam motum primus quatuor inuenit quatuor  
agnominabit. Cum quo demet inuenit quatuor: aut  
tabula uisum est ad semicirculum: et complementum inuenit  
tertio tabula intro later alter. Et cum quodam in angulo  
communi occideret et quodam et quodam circuli summo: reliquum  
uocabit inuenit tertius. Jam denique argumentum octauae  
sphaere operi. Quodam si minus quatuor fuerit serua: si plus: extra  
quod semicirculi maneat: ipsum et 19. 10. minuat: quodam  
toto. Et si dimidio circuli si pau crine nonde tres quatuor  
angulus: minus et eo semicirculum: reliquum custodi.

TP: obla

quodam inuenit: Cui inuenit

**E**quationem octauae sphaere  
liberationem Tebith supponit

Et scias primo motus motus accessus et recessus  
octauae sphaere per tabulam suam. Quia si minor quodam  
ante fuerit seruetur. Et uisum est maior eo: minor qui  
dam circumferentia ipsum et 130 demet. Et si fuerit ma  
ior semicirculo: minor autem tribus quatuor: et eo minus

De si tres etia dñas victric: ablecto et eo. 369. gradibus  
refidit scia. Xale itaq; servati quidam dñes polu  
lar et semidiametro parvi circuli gr. 4. min. 19. lateral  
interito tabule infer. quod 3 ubi in area tabule offert  
invenitur septimū applicabilis. Illud rursum invenitum  
septimum cum inuento secto arcum in tabulam transi  
fer. babebis enim in latere descendenti equationem octau  
e spbere quam querebas: addendam quide dum argu  
mentum octauae spbere minus est semicirculo. Invenitū  
est quo quando argumentum tale semicirculo transcendit  
Atqui argumentum buliscomodi dimidiū circuli equate  
nulla porsitas est equatio: veluti etiam capite arcus sici  
lati pumcipum rursus fuit attingit. Dum aut quadra  
circuli vel simplicem vel triplicata continet: maxime eq  
uationem numerum gra. 19. m. 45. offendit. Porro si argu  
mentum octauae spbere completit gra. 66. m. 26. fa. 30. aut  
tantundem superat: dicit semicirculo: invenitū quada  
supputacione ppositū efficitur. In tribus enī lateraliter  
et gr. 85. m. 41. 2 gra. 66. m. 26. secūdo. 30. Completio  
numeri hoc pacto elicitur rursus et gra. 4. m. 19. arcum  
tabule infer. ca. quod id q; in latere descendenti colligitur  
lateraliter item est gr. 66. m. 26. secūdo. 30. tabule in illam  
expeditur equationē octauae spbere quē sitam. addendā  
quidem dum argumentū octauae spbere continet gr. 66.  
m. 26. fa. 30. minuatā q; quādo tantundē addit sup  
semicirculo. Illud aut non est contentū oculo pretereun  
tibus: quo invenitū certum superius elicitum offendit ma  
gnitudinem anguli ab egypticis et siccis 1 4 equitioctia  
li circulo compacēnti: id est maximā solus decunationē  
pro tempore sufficit. Nam quoniam caput arcus sici  
lati in parvo circulo rotatur: quemadmodum sectoris  
flexibis autant: necesse est egypticam buliscomodi  
quam appellant mobilē. Varias ad quādo etiam cir  
culum fortiter inclina tione. Preterea complementū in  
venit secūdi (siquid fuerit) equale est ostante capitis  
cancri finē a capite cancri thobula. Et in exemplo cuncta  
facillime videbitur. Sit argumentū octauae spbere. 26. gra  
dū. quere equationē cā debita in modum quo is vñs  
est qui toletanas composuit tabulas. Intro lateraliter  
cum argumentū ppositū gra. 26. m. 4. semidiametro  
parvi circuli gra. 4. m. 19. elicio gra. 1. m. 18. Quem rur  
sum numerum arcum in tabulam duendo cum gra. 23.  
m. 46. invenio equationem quē sitam gra. 1. m. 19. quāda  
sermē in tabella equatōis octauae spbere offendit iuxta  
20. gradus argumēti. Sed est argumentū octauae spbe  
re 45. gradū. cui fm exquitionē formulam iungo gr. 11.  
m. 13. fa. 30. vi concretat numerus introituālis gra. 68.  
m. 13. negletis. 30. secūdo: quo calcula expeditior fiat  
Cum itaq; cum gra. 4. m. 19. lateraliter in tabulam duē  
ti mibi ostendit invenitū pūm gra. 4. m. 1. Item cundē

numerum gra. 4. m. 19. cum complemento socii sui gr. 21.  
m. 27. lateraliter quoq; in tabulam transierit et extra  
bit arcus gra. 1. m. 34. Cum complementū gra. 88. m. 26.  
vocalo invenitum secundum. Quod dñe cum gr. 23.  
m. 11. lateraliter tabule infera dñe invenitum tertium  
gra. 23. m. 11. pape. Nobis complementum gra. 66. m.  
28. cum complemento invenitū secūdi gra. 1. m. 34. arcū  
qm in tabulam mittendo et caput invenitum quartum  
gra. 1. m. 41. Quod rursum cum gra. 23. m. 11. lateraliter  
introitu tabule inveniūm elicit numerum istum gr. 4. m. 1.  
Quem ex quadrate mudo: quoniam congerica que ex ar  
gumento octauae spbere et marina decunatione fuit ab  
initio calculi buis nascitur: quadrate minus cunctis  
sicq; relinquatur numerus alie gra. 39. m. 19. Cui ad iungo  
invenitum pūm vi concretat invenitum quintum gr. 3.  
m. 26. Quia residui de semicirculo gr. 86. m. 40. quoniam  
ipsummet minus est quadrate: cum completio inveni  
ti tertio gra. 66. m. 28. lateraliter in tabulam duens co  
promio gra. 66. m. 14. Cuius complementū gra. 23. m. 46.  
invenitū lecti nomē usurpabit. 3 autē est magnitudo an  
guli ab egypticis pūm 1 equitioctia circulo compa  
centi. sicut marina decunatio solaris ad pēntē cū  
stellati habitudinem. Jam deniq; argumētum octauae  
spbere ppositum gra. 45. m. 0. cum gra. 4. m. 19. lateral  
iter in tabulam graduēti mibi eribebit invenitū septi  
mum gra. 3. m. 1. Quod postremo cum inveno secto  
gra. 23. m. 46. arcum tabule illatum expeditur equatio  
nem octauae spbere gra. 7. m. 36. In abaco aut toletano  
offendit equatio 45. gradū sub debita gra. 3. m. 36. fa. 35.  
paramper a nostro calculo differit. Si igitur tantulum  
differentiā tam talis varo labori indignam cen  
ses: vitare licet primo modo qui et si rudis culus appa  
ret: q; geometricam preterat demōstrāre noncam  
tam rōdē 1 quasi indigētem supputacionē in citatē  
te quadam nō inuicēda compenat. Et aut reliquā  
pcepti buri p articulum exemplari numero illustratū  
ponatur argumentum octauae spbere gra. 66. m. 27. aut  
gra. 26. m. 19. in quo sit egyptica mobilis contingit  
vñs parvi circuli. Quatuor igitur equationē  
octauae spbere intro tabulam lateraliter cum gr. 85. m. 41.  
et gra. 26. m. 27. elicio in area tabule numerum istum  
gra. 66. m. 4. Cuius item complementum gra. 23. m. 56.  
arcum in tabulam duendo cum gra. 4. m. 19. extrahit  
tur numerus ille gra. 10. m. 42. Quem postremo nume  
rum vñs cum gra. 66. m. 27. lateraliter in tabulam mite  
tes exipio equationē octauae spbere qūda gr. 9. m. 48.

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Canones in Tabulam Primi mobilis

Magistri Joanne de ad de regio

Germanie decimo

Feliciter Explicunt.

| ARCUS    |   |    |    | Diff<br>feren-<br>tia | ARCUS    |   |    |    | Diff<br>feren-<br>tia | ARCUS    |   |    |    | Diff<br>feren-<br>tia |
|----------|---|----|----|-----------------------|----------|---|----|----|-----------------------|----------|---|----|----|-----------------------|
| Defectus |   |    |    | Rate-<br>ratio.       | Defectus |   |    |    | Rate-<br>ratio.       | Defectus |   |    |    | Rate-<br>ratio.       |
| s        | g | m  | fa |                       | s        | g | m  | fa |                       | s        | g | m  | fa |                       |
| 1        | 0 | 1  | 3  |                       | 31       | 0 | 10 | 54 |                       | 61       | 0 | 52 | 29 |                       |
| 2        | 0 | 2  | 6  | 1 3                   | 32       | 0 | 11 | 48 | 10 54                 | 62       | 0 | 53 | 59 | 52 28                 |
| 3        | 0 | 3  | 8  | 2 5                   | 33       | 0 | 12 | 41 | 11 47                 | 63       | 0 | 54 | 28 | 52 58                 |
| 4        | 0 | 4  | 11 | 3 9                   | 34       | 0 | 13 | 33 | 12 40                 | 64       | 0 | 55 | 28 | 53 27                 |
| 5        | 0 | 5  | 14 | 4 11                  | 35       | 0 | 14 | 25 | 13 33                 | 65       | 0 | 56 | 27 | 53 55                 |
| 6        | 0 | 6  | 16 | 5 13                  | 36       | 0 | 15 | 16 | 14 24                 | 66       | 0 | 57 | 26 | 54 22                 |
| 7        | 0 | 7  | 18 | 6 16                  | 37       | 0 | 16 | 6  | 15 16                 | 67       | 0 | 58 | 25 | 54 48                 |
| 8        | 0 | 8  | 21 | 7 19                  | 38       | 0 | 16 | 56 | 16 7                  | 68       | 0 | 59 | 24 | 55 13                 |
| 9        | 0 | 9  | 23 | 8 21                  | 39       | 0 | 17 | 45 | 16 56                 | 69       | 0 | 50 | 23 | 55 38                 |
| 10       | 0 | 10 | 25 | 9 23                  | 40       | 0 | 18 | 34 | 17 45                 | 70       | 0 | 51 | 22 | 56 1                  |
| 11       | 0 | 11 | 27 | 10 25                 | 41       | 0 | 19 | 22 | 18 34                 | 71       | 0 | 52 | 21 | 56 23                 |
| 12       | 0 | 12 | 28 | 11 27                 | 42       | 0 | 20 | 10 | 19 21                 | 72       | 0 | 53 | 20 | 56 44                 |
| 13       | 0 | 13 | 30 | 12 29                 | 43       | 0 | 20 | 55 | 20 8                  | 73       | 0 | 54 | 19 | 57 3                  |
| 14       | 0 | 14 | 31 | 13 30                 | 44       | 0 | 21 | 44 | 20 55                 | 74       | 0 | 55 | 18 | 57 23                 |
| 15       | 0 | 15 | 32 | 14 31                 | 45       | 0 | 22 | 32 | 21 40                 | 75       | 0 | 56 | 17 | 57 40                 |
| 16       | 0 | 16 | 33 | 15 31                 | 46       | 0 | 23 | 20 | 22 25                 | 76       | 0 | 57 | 16 | 57 58                 |
| 17       | 0 | 17 | 34 | 16 32                 | 47       | 0 | 24 | 10 | 23 9                  | 77       | 0 | 58 | 15 | 58 13                 |
| 18       | 0 | 18 | 35 | 17 32                 | 48       | 0 | 25 | 0  | 24 52                 | 78       | 0 | 59 | 14 | 58 28                 |
| 19       | 0 | 19 | 36 | 18 33                 | 49       | 0 | 26 | 50 | 25 15                 | 79       | 0 | 50 | 13 | 58 41                 |
| 20       | 0 | 20 | 37 | 19 33                 | 50       | 0 | 27 | 38 | 26 17                 | 80       | 0 | 51 | 12 | 58 54                 |
| 21       | 0 | 21 | 38 | 20 34                 | 51       | 0 | 28 | 26 | 27 57                 | 81       | 0 | 52 | 11 | 59 6                  |
| 22       | 0 | 22 | 39 | 21 35                 | 52       | 0 | 29 | 14 | 28 37                 | 82       | 0 | 53 | 10 | 59 15                 |
| 23       | 0 | 23 | 40 | 22 35                 | 53       | 0 | 30 | 2  | 29 16                 | 83       | 0 | 54 | 9  | 59 25                 |
| 24       | 0 | 24 | 41 | 23 36                 | 54       | 0 | 31 | 50 | 30 57                 | 84       | 0 | 55 | 8  | 59 33                 |
| 25       | 0 | 25 | 42 | 24 36                 | 55       | 0 | 32 | 38 | 31 33                 | 85       | 0 | 56 | 7  | 59 41                 |
| 26       | 0 | 26 | 43 | 25 37                 | 56       | 0 | 33 | 26 | 32 8                  | 86       | 0 | 57 | 6  | 59 47                 |
| 27       | 0 | 27 | 44 | 26 37                 | 57       | 0 | 34 | 14 | 33 44                 | 87       | 0 | 58 | 5  | 59 52                 |
| 28       | 0 | 28 | 45 | 27 38                 | 58       | 0 | 35 | 2  | 34 19                 | 88       | 0 | 59 | 4  | 59 55                 |
| 29       | 0 | 29 | 46 | 28 38                 | 59       | 0 | 36 | 50 | 35 53                 | 89       | 0 | 50 | 3  | 59 58                 |
| 30       | 0 | 30 | 47 | 29 39                 | 60       | 0 | 37 | 38 | 36 26                 | 90       | 0 | 51 | 2  | 60 0                  |

| ARCUS            |   |    |    |    | Diffé-<br>ren-<br>ce | ARCUS            |   |   |     |    | Diffé-<br>ren-<br>ce | ARCUS            |   |    |    |   | Diffé-<br>ren-<br>ce |
|------------------|---|----|----|----|----------------------|------------------|---|---|-----|----|----------------------|------------------|---|----|----|---|----------------------|
| Arcus            |   |    |    |    | Lat-<br>rains        | Arcus            |   |   |     |    | Lat-<br>rains        | Arcus            |   |    |    |   | Lat-<br>rains        |
| Declina-<br>tion | g | m  | fa | m  | fa                   | Declina-<br>tion | g | m | fa  | m  | fa                   | Declina-<br>tion | g | m  | fa | m | fa                   |
| 1                | 0 | 2  | 6  | 1  | 2                    | 11               | 1 | 1 | 48  | 10 | 51                   | 61               | 1 | 44 | 57 | 0 | 52 28                |
| 2                | 0 | 4  | 11 | 2  | 6                    | 12               | 1 | 1 | 15  | 11 | 46                   | 62               | 1 | 45 | 58 | 0 | 52 58                |
| 3                | 0 | 6  | 17 | 3  | 8                    | 13               | 1 | 1 | 21  | 12 | 39                   | 63               | 1 | 46 | 59 | 0 | 53 27                |
| 4                | 0 | 8  | 22 | 4  | 11                   | 14               | 1 | 1 | 26  | 13 | 31                   | 64               | 1 | 47 | 51 | 0 | 53 55                |
| 5                | 0 | 10 | 27 | 5  | 14                   | 15               | 1 | 1 | 31  | 14 | 24                   | 65               | 1 | 48 | 45 | 0 | 54 22                |
| 6                | 0 | 12 | 32 | 6  | 17                   | 16               | 1 | 1 | 36  | 15 | 14                   | 66               | 1 | 49 | 37 | 0 | 54 49                |
| 7                | 0 | 14 | 37 | 7  | 19                   | 17               | 1 | 1 | 41  | 16 | 5                    | 67               | 1 | 50 | 27 | 0 | 55 14                |
| 8                | 0 | 16 | 42 | 8  | 20                   | 18               | 1 | 1 | 46  | 17 | 55                   | 68               | 1 | 51 | 16 | 0 | 55 37                |
| 9                | 0 | 18 | 46 | 9  | 21                   | 19               | 1 | 1 | 51  | 18 | 45                   | 69               | 1 | 52 | 2  | 0 | 56 0                 |
| 10               | 0 | 20 | 50 | 10 | 25                   | 20               | 1 | 1 | 56  | 19 | 32                   | 70               | 1 | 53 | 44 | 0 | 56 22                |
| 11               | 0 | 22 | 54 | 11 | 26                   | 21               | 1 | 1 | 61  | 20 | 21                   | 71               | 1 | 54 | 28 | 0 | 56 43                |
| 12               | 0 | 24 | 57 | 12 | 28                   | 22               | 1 | 1 | 66  | 21 | 8                    | 72               | 1 | 55 | 7  | 0 | 57 4                 |
| 13               | 0 | 27 | 0  | 13 | 28                   | 23               | 1 | 1 | 71  | 22 | 54                   | 73               | 1 | 56 | 45 | 0 | 57 31                |
| 14               | 0 | 29 | 2  | 14 | 30                   | 24               | 1 | 1 | 76  | 23 | 41                   | 74               | 1 | 57 | 21 | 0 | 57 40                |
| 15               | 0 | 31 | 3  | 15 | 31                   | 25               | 1 | 1 | 81  | 24 | 24                   | 75               | 1 | 58 | 55 | 0 | 57 57                |
| 16               | 0 | 33 | 4  | 16 | 32                   | 26               | 1 | 1 | 86  | 25 | 19                   | 76               | 1 | 59 | 26 | 0 | 58 13                |
| 17               | 0 | 35 | 5  | 17 | 31                   | 27               | 1 | 1 | 91  | 26 | 5                    | 77               | 1 | 60 | 54 | 0 | 58 27                |
| 18               | 0 | 37 | 5  | 18 | 11                   | 28               | 1 | 1 | 96  | 27 | 14                   | 78               | 1 | 61 | 21 | 0 | 58 41                |
| 19               | 0 | 39 | 4  | 19 | 31                   | 29               | 1 | 1 | 101 | 28 | 4                    | 79               | 1 | 62 | 48 | 0 | 58 54                |
| 20               | 0 | 41 | 1  | 20 | 30                   | 30               | 1 | 1 | 106 | 29 | 55                   | 80               | 1 | 63 | 11 | 0 | 59 5                 |
| 21               | 0 | 43 | 0  | 21 | 29                   | 31               | 1 | 1 | 111 | 30 | 45                   | 81               | 1 | 64 | 21 | 0 | 59 16                |
| 22               | 0 | 45 | 57 | 22 | 27                   | 32               | 1 | 1 | 116 | 31 | 34                   | 82               | 1 | 65 | 30 | 0 | 59 25                |
| 23               | 0 | 46 | 53 | 23 | 25                   | 33               | 1 | 1 | 121 | 32 | 24                   | 83               | 1 | 66 | 39 | 0 | 59 33                |
| 24               | 0 | 48 | 48 | 24 | 23                   | 34               | 1 | 1 | 126 | 33 | 12                   | 84               | 1 | 67 | 48 | 0 | 59 40                |
| 25               | 0 | 50 | 42 | 25 | 21                   | 35               | 1 | 1 | 131 | 34 | 0                    | 85               | 1 | 68 | 57 | 0 | 59 46                |
| 26               | 0 | 52 | 36 | 26 | 17                   | 36               | 1 | 1 | 136 | 35 | 49                   | 86               | 1 | 69 | 6  | 0 | 59 51                |
| 27               | 0 | 54 | 28 | 27 | 13                   | 37               | 1 | 1 | 141 | 36 | 38                   | 87               | 1 | 70 | 15 | 0 | 59 55                |
| 28               | 0 | 56 | 20 | 28 | 9                    | 38               | 1 | 1 | 146 | 37 | 26                   | 88               | 1 | 71 | 24 | 0 | 59 58                |
| 29               | 0 | 58 | 10 | 29 | 4                    | 39               | 1 | 1 | 151 | 38 | 14                   | 89               | 1 | 72 | 33 | 0 | 59 59                |
| 30               | 1 | 0  | 0  | 30 | 0                    | 40               | 1 | 1 | 156 | 39 | 2                    | 90               | 2 | 0  | 0  | 0 | 60 0                 |



| ARCUS    |   |    |    |       | ARCUS    |   |    |    |       | ARCUS    |   |    |    |       |
|----------|---|----|----|-------|----------|---|----|----|-------|----------|---|----|----|-------|
| Defectus |   |    |    |       | Defectus |   |    |    |       | Defectus |   |    |    |       |
| Arcus    |   |    |    |       | Arcus    |   |    |    |       | Arcus    |   |    |    |       |
| Defectus | g | m  | fa | m fa  | Defectus | g | m  | fa | m fa  | Defectus | g | m  | fa | m fa  |
| 1        | 0 | 3  | 8  |       | 31       | 1 | 32 | 41 |       | 61       | 2 | 37 | 25 |       |
| 2        | 0 | 6  | 17 | 1 3   | 32       | 1 | 35 | 21 | 20 51 | 62       | 2 | 38 | 30 | 52 27 |
| 3        | 0 | 9  | 25 | 2 8   | 33       | 1 | 38 | 0  | 31 45 | 63       | 2 | 40 | 22 | 52 57 |
| 4        | 0 | 12 | 33 | 4 11  | 34       | 1 | 40 | 37 | 32 38 | 64       | 2 | 41 | 24 | 51 26 |
| 5        | 0 | 15 | 41 | 5 13  | 35       | 1 | 43 | 13 | 33 31 | 65       | 2 | 43 | 7  | 51 55 |
| 6        | 0 | 18 | 49 | 6 15  | 36       | 1 | 45 | 46 | 34 22 | 66       | 2 | 44 | 26 | 54 22 |
| 7        | 0 | 21 | 56 | 7 18  | 37       | 1 | 48 | 18 | 35 14 | 67       | 2 | 45 | 15 | 54 47 |
| 8        | 0 | 25 | 2  | 8 21  | 38       | 1 | 50 | 47 | 36 4  | 68       | 2 | 46 | 41 | 55 13 |
| 9        | 0 | 28 | 9  | 9 22  | 39       | 1 | 53 | 15 | 36 54 | 69       | 2 | 48 | 2  | 55 37 |
| 10       | 0 | 31 | 15 | 10 24 | 40       | 1 | 55 | 40 | 37 43 | 70       | 2 | 49 | 8  | 56 0  |
| 11       | 0 | 34 | 20 | 11 26 | 41       | 1 | 58 | 4  | 38 32 | 71       | 2 | 50 | 11 | 56 22 |
| 12       | 0 | 37 | 25 | 12 27 | 42       | 2 | 0  | 25 | 39 19 | 72       | 2 | 51 | 11 | 56 43 |
| 13       | 0 | 40 | 28 | 13 29 | 43       | 2 | 2  | 44 | 40 6  | 73       | 2 | 52 | 0  | 57 3  |
| 14       | 0 | 43 | 32 | 14 29 | 44       | 2 | 5  | 1  | 40 51 | 74       | 2 | 53 | 1  | 57 22 |
| 15       | 0 | 46 | 34 | 15 30 | 45       | 2 | 7  | 15 | 41 38 | 75       | 2 | 54 | 0  | 57 40 |
| 16       | 0 | 49 | 36 | 16 30 | 46       | 2 | 9  | 27 | 42 23 | 76       | 2 | 54 | 39 | 57 57 |
| 17       | 0 | 52 | 36 | 17 31 | 47       | 2 | 11 | 37 | 43 8  | 77       | 2 | 55 | 23 | 58 13 |
| 18       | 0 | 55 | 36 | 18 31 | 48       | 2 | 13 | 44 | 43 51 | 78       | 2 | 56 | 4  | 58 27 |
| 19       | 0 | 58 | 35 | 19 30 | 49       | 2 | 15 | 49 | 44 33 | 79       | 2 | 56 | 42 | 58 41 |
| 20       | 1 | 1  | 12 | 20 30 | 50       | 2 | 17 | 52 | 45 15 | 80       | 2 | 57 | 16 | 58 51 |
| 21       | 1 | 4  | 20 | 21 28 | 51       | 2 | 19 | 52 | 45 55 | 81       | 2 | 57 | 47 | 59 5  |
| 22       | 1 | 7  | 24 | 22 27 | 52       | 2 | 21 | 49 | 46 35 | 82       | 2 | 58 | 15 | 59 15 |
| 23       | 1 | 10 | 18 | 23 25 | 53       | 2 | 23 | 44 | 47 15 | 83       | 2 | 58 | 24 | 59 25 |
| 24       | 1 | 13 | 11 | 24 22 | 54       | 2 | 25 | 36 | 47 51 | 84       | 2 | 59 | 39 | 59 31 |
| 25       | 1 | 16 | 3  | 25 19 | 55       | 2 | 27 | 26 | 48 31 | 85       | 2 | 59 | 1  | 59 40 |
| 26       | 1 | 18 | 51 | 26 15 | 56       | 2 | 29 | 12 | 49 7  | 86       | 2 | 59 | 19 | 59 46 |
| 27       | 1 | 21 | 41 | 27 12 | 57       | 2 | 30 | 57 | 49 43 | 87       | 2 | 59 | 34 | 59 51 |
| 28       | 1 | 24 | 29 | 28 7  | 58       | 2 | 32 | 18 | 50 17 | 88       | 2 | 59 | 45 | 59 55 |
| 29       | 1 | 27 | 14 | 29 3  | 59       | 2 | 34 | 17 | 51 24 | 89       | 2 | 59 | 58 | 60 0  |
| 30       | 1 | 29 | 58 | 29 58 | 60       | 2 | 35 | 52 | 51 56 | 90       | 3 | 0  | 0  | 60 0  |



| ARCUS     |       |    |    |    | Diff<br>feren-<br>tia<br>Lato-<br>ralis. | ARCUS     |       |    |    |       | Diff<br>feren-<br>tia<br>Lato-<br>ralis. | ARCUS     |       |    |    |    | Diff<br>feren-<br>tia<br>Lato-<br>ralis. |    |    |
|-----------|-------|----|----|----|--|-----------|-------|----|----|-------|--|-----------|-------|----|----|----|--|----|----|
| Defectus. | Arcus |    |    |    |  | Defectus. | Arcus |    |    |       |  | Defectus. | Arcus |    |    |    |  |    |    |
|           | g     | m  | mi | fa |  | g         | m     | mi | fa |       | g  | m         | mi    | fa |    | g  | m  | mi | fa |
| 1         | 0     | 4  | 11 | 11 | 1 3                                      | 31        | 2     | 3  | 32 | 30 50 | 61                                       | 3         | 29    | 2  | 52 | 0  | 52                                       | 36 |    |
| 2         | 0     | 8  | 22 | 11 | 2 5                                      | 32        | 2     | 7  | 6  | 31 44 | 62                                       | 3         | 31    | 1  | 52 | 56 | 52                                       | 59 |    |
| 3         | 0     | 12 | 33 | 11 | 3 8                                      | 33        | 2     | 10 | 18 | 32 37 | 63                                       | 3         | 33    | 1  | 53 | 53 | 53                                       | 26 |    |
| 4         | 0     | 16 | 44 | 10 | 4 10                                     | 34        | 2     | 14 | 8  | 33 29 | 64                                       | 3         | 35    | 1  | 54 | 41 | 51                                       | 53 |    |
| 5         | 0     | 20 | 54 | 10 | 5 13                                     | 35        | 2     | 17 | 35 | 34 21 | 65                                       | 3         | 37    | 1  | 55 | 29 | 54                                       | 21 |    |
| 6         | 0     | 25 | 4  | 10 | 6 15                                     | 36        | 2     | 21 | 0  | 35 11 | 66                                       | 3         | 39    | 1  | 56 | 13 | 54                                       | 47 |    |
| 7         | 0     | 29 | 14 | 9  | 7 17                                     | 37        | 2     | 24 | 22 | 36 2  | 67                                       | 3         | 40    | 1  | 57 | 36 | 55                                       | 12 |    |
| 8         | 0     | 33 | 23 | 8  | 8 19                                     | 38        | 2     | 27 | 41 | 36 52 | 68                                       | 3         | 42    | 1  | 58 | 32 | 55                                       | 36 |    |
| 9         | 0     | 37 | 31 | 8  | 9 21                                     | 39        | 2     | 30 | 58 | 37 41 | 69                                       | 3         | 44    | 1  | 59 | 2  | 56                                       | 0  |    |
| 10        | 0     | 41 | 39 | 7  | 10 23                                    | 40        | 2     | 34 | 12 | 38 30 | 70                                       | 3         | 45    | 1  | 60 | 30 | 56                                       | 22 |    |
| 11        | 0     | 45 | 46 | 6  | 11 24                                    | 41        | 2     | 37 | 24 | 39 18 | 71                                       | 3         | 46    | 1  | 61 | 54 | 56                                       | 43 |    |
| 12        | 0     | 49 | 52 | 5  | 12 26                                    | 42        | 2     | 40 | 31 | 40 5  | 72                                       | 3         | 48    | 1  | 62 | 14 | 57                                       | 1  |    |
| 13        | 0     | 53 | 57 | 4  | 13 27                                    | 43        | 2     | 43 | 37 | 40 51 | 73                                       | 3         | 49    | 1  | 63 | 30 | 57                                       | 22 |    |
| 14        | 0     | 58 | 1  | 3  | 14 28                                    | 44        | 2     | 46 | 39 | 41 37 | 74                                       | 3         | 50    | 1  | 64 | 41 | 57                                       | 40 |    |
| 15        | 1     | 2  | 4  | 2  | 15 29                                    | 45        | 2     | 49 | 48 | 42 22 | 75                                       | 3         | 51    | 1  | 65 | 49 | 57                                       | 56 |    |
| 16        | 1     | 6  | 6  | 1  | 16 30                                    | 46        | 2     | 52 | 55 | 43 5  | 76                                       | 3         | 52    | 1  | 66 | 52 | 58                                       | 12 |    |
| 17        | 1     | 10 | 7  | 0  | 17 30                                    | 47        | 2     | 55 | 28 | 44 49 | 77                                       | 3         | 54    | 0  | 67 | 50 | 58                                       | 27 |    |
| 18        | 1     | 14 | 7  | 58 | 18 29                                    | 48        | 2     | 58 | 17 | 44 32 | 78                                       | 3         | 54    | 0  | 68 | 45 | 58                                       | 41 |    |
| 19        | 1     | 18 | 5  | 57 | 19 29                                    | 49        | 3     | 1  | 4  | 45 13 | 79                                       | 3         | 55    | 0  | 69 | 35 | 58                                       | 54 |    |
| 20        | 1     | 22 | 2  | 55 | 20 28                                    | 50        | 3     | 4  | 37 | 45 55 | 80                                       | 3         | 56    | 0  | 70 | 31 | 59                                       | 5  |    |
| 21        | 1     | 25 | 3  | 54 | 21 27                                    | 51        | 3     | 6  | 27 | 46 35 | 81                                       | 3         | 57    | 0  | 71 | 2  | 59                                       | 16 |    |
| 22        | 1     | 29 | 31 | 52 | 22 25                                    | 52        | 3     | 9  | 4  | 47 13 | 82                                       | 3         | 57    | 0  | 72 | 40 | 59                                       | 24 |    |
| 23        | 1     | 33 | 41 | 50 | 23 23                                    | 53        | 3     | 11 | 37 | 47 52 | 83                                       | 3         | 58    | 0  | 73 | 12 | 59                                       | 33 |    |
| 24        | 1     | 37 | 43 | 49 | 24 21                                    | 54        | 3     | 14 | 7  | 48 29 | 84                                       | 3         | 58    | 0  | 74 | 41 | 59                                       | 40 |    |
| 25        | 1     | 41 | 42 | 46 | 25 17                                    | 55        | 3     | 16 | 33 | 49 5  | 85                                       | 3         | 59    | 0  | 75 | 5  | 59                                       | 46 |    |
| 26        | 1     | 45 | 8  | 45 | 26 15                                    | 56        | 3     | 18 | 35 | 49 42 | 86                                       | 3         | 59    | 0  | 76 | 25 | 59                                       | 51 |    |
| 27        | 1     | 48 | 33 | 41 | 27 11                                    | 57        | 3     | 21 | 14 | 50 16 | 87                                       | 3         | 59    | 0  | 77 | 40 | 59                                       | 55 |    |
| 28        | 1     | 52 | 36 | 41 | 28 6                                     | 58        | 3     | 24 | 29 | 50 50 | 88                                       | 3         | 59    | 0  | 78 | 51 | 59                                       | 58 |    |
| 29        | 1     | 56 | 17 | 39 | 29 1                                     | 59        | 3     | 25 | 41 | 51 23 | 89                                       | 3         | 59    | 0  | 79 | 58 | 59                                       | 59 |    |
| 30        | 1     | 59 | 56 | 36 | 29 56                                    | 60        | 3     | 27 | 48 | 51 55 | 90                                       | 4         | 0     | 0  | 80 | 0  | 60                                       | 0  |    |

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| 1        | 0       | 5 14          | 31       | 2       | 24 22         | 61       | 4       | 22 18         |
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| 4        | 0       | 20 54         | 34       | 2       | 47 27         | 64       | 4       | 29 34         |
| 5        | 0       | 26 7          | 35       | 2       | 51 56         | 65       | 4       | 31 50         |
| 6        | 0       | 31 19         | 36       | 2       | 56 11         | 66       | 4       | 34 0          |
| 7        | 0       | 36 31         | 37       | 3       | 0 24          | 67       | 4       | 36 6          |
| 8        | 0       | 41 42         | 38       | 3       | 4 9           | 68       | 4       | 38 6          |
| 9        | 0       | 46 52         | 39       | 3       | 8 19          | 69       | 4       | 40 2          |
| 10       | 0       | 52 5          | 40       | 3       | 12 32         | 70       | 4       | 41 52         |
| 11       | 0       | 57 8          | 41       | 3       | 16 41         | 71       | 4       | 41 37         |
| 12       | 1       | 2 18          | 42       | 3       | 20 36         | 72       | 4       | 45 17         |
| 13       | 1       | 7 26          | 43       | 3       | 24 28         | 73       | 4       | 46 52         |
| 14       | 1       | 12 29         | 44       | 3       | 28 16         | 74       | 4       | 48 21         |
| 15       | 1       | 17 33         | 45       | 3       | 32 0          | 75       | 4       | 49 45         |
| 16       | 1       | 22 36         | 46       | 3       | 35 40         | 76       | 4       | 51 4          |
| 17       | 1       | 27 47         | 47       | 3       | 39 17         | 77       | 4       | 52 17         |
| 18       | 1       | 32 16         | 48       | 3       | 42 49         | 78       | 4       | 53 26         |
| 19       | 1       | 37 14         | 49       | 3       | 46 17         | 79       | 4       | 54 29         |
| 20       | 1       | 42 30         | 50       | 3       | 49 42         | 80       | 4       | 55 26         |
| 21       | 1       | 47 24         | 51       | 3       | 53 2          | 81       | 4       | 56 18         |
| 22       | 1       | 52 16         | 52       | 3       | 56 17         | 82       | 4       | 57 0          |
| 23       | 1       | 57 6          | 53       | 3       | 59 29         | 83       | 4       | 57 45         |
| 24       | 2       | 1 54          | 54       | 4       | 2 36          | 84       | 4       | 58 21         |
| 25       | 2       | 6 30          | 55       | 4       | 5 38          | 85       | 4       | 58 51         |
| 26       | 2       | 11 23         | 56       | 4       | 8 37          | 86       | 4       | 59 16         |
| 27       | 2       | 16 4          | 57       | 4       | 11 30         | 87       | 4       | 59 35         |
| 28       | 2       | 20 42         | 58       | 4       | 14 19         | 88       | 4       | 59 49         |
| 29       | 2       | 25 18         | 59       | 4       | 17 4          | 89       | 4       | 59 57         |
| 30       | 2       | 29 52         | 60       | 4       | 19 43         | 90       | 5       | 0 0           |
|          |         | 30 51         |          |         | 2 35          |          |         | 0 0           |

| Defectio. | ARCUS |    |    |    |       | Diff<br>fere<br>tia<br>Zato<br>ratio. | Defectio. | ARCUS |    |    |       |    | Diff<br>fere<br>na<br>Zato<br>ratio. | Defectio. | ARCUS |    |       |   |    | Diff<br>fere<br>tia<br>Zato<br>ratio. |
|-----------|-------|----|----|----|-------|---------------------------------------|-----------|-------|----|----|-------|----|--------------------------------------|-----------|-------|----|-------|---|----|---------------------------------------|
|           | Arcus |    |    |    |       |                                       |           | Arcus |    |    |       |    |                                      |           | Arcus |    |       |   |    |                                       |
|           | g     | m  | fa | m  | fa    |                                       |           | g     | m  | fa | m     | fa |                                      |           | g     | m  | fa    | m | fa |                                       |
| 1         | 0     | 6  | 16 | 1  | 2     |                                       | 31        | 3     | 5  | 10 | 30 45 |    | 61                                   | 5         | 14    | 44 | 52 23 |   |    |                                       |
| 2         | 0     | 12 | 32 | 2  | 5     |                                       | 32        | 3     | 10 | 31 | 31 39 |    | 62                                   | 5         | 17    | 44 | 52 54 |   |    |                                       |
| 3         | 0     | 18 | 49 | 3  | 7     |                                       | 33        | 3     | 15 | 49 | 32 32 |    | 63                                   | 5         | 20    | 38 | 53 24 |   |    |                                       |
| 4         | 0     | 25 | 4  | 4  | 10    |                                       | 34        | 3     | 21 | 3  | 33 24 |    | 64                                   | 5         | 23    | 27 | 53 52 |   |    |                                       |
| 5         | 0     | 31 | 19 | 5  | 12    |                                       | 35        | 3     | 26 | 14 | 34 16 |    | 65                                   | 5         | 26    | 10 | 54 19 |   |    |                                       |
| 6         | 0     | 37 | 34 | 6  | 14    |                                       | 36        | 3     | 31 | 21 | 35 7  |    | 66                                   | 5         | 28    | 47 | 54 45 |   |    |                                       |
| 7         | 0     | 43 | 48 | 6  | 16    |                                       | 37        | 3     | 36 | 24 | 35 58 |    | 67                                   | 5         | 31    | 17 | 55 11 |   |    |                                       |
| 8         | 0     | 50 | 1  | 8  | 18    |                                       | 38        | 3     | 41 | 23 | 36 47 |    | 68                                   | 5         | 33    | 42 | 55 35 |   |    |                                       |
| 9         | 0     | 56 | 13 | 9  | 20    |                                       | 39        | 3     | 46 | 18 | 37 37 |    | 69                                   | 5         | 36    | 1  | 55 57 |   |    |                                       |
| 10        | 1     | 2  | 24 | 10 | 22    |                                       | 40        | 3     | 51 | 9  | 38 26 |    | 70                                   | 5         | 38    | 13 | 56 20 |   |    |                                       |
| 11        | 1     | 8  | 34 | 11 | 23    |                                       | 41        | 3     | 55 | 56 | 39 13 |    | 71                                   | 5         | 40    | 19 | 56 42 |   |    |                                       |
| 12        | 1     | 14 | 43 | 12 | 24    |                                       | 42        | 4     | 0  | 39 | 40 0  |    | 72                                   | 5         | 42    | 19 | 57 2  |   |    |                                       |
| 13        | 1     | 20 | 51 | 6  | 13 25 |                                       | 43        | 4     | 5  | 33 | 40 46 |    | 73                                   | 5         | 44    | 13 | 57 21 |   |    |                                       |
| 14        | 1     | 26 | 57 | 6  | 14 25 |                                       | 44        | 4     | 9  | 50 | 41 31 |    | 74                                   | 5         | 46    | 0  | 57 39 |   |    |                                       |
| 15        | 1     | 33 | 1  | 6  | 15 26 |                                       | 45        | 4     | 14 | 19 | 42 18 |    | 75                                   | 5         | 47    | 41 | 57 56 |   |    |                                       |
| 16        | 1     | 39 | 4  | 6  | 16 26 |                                       | 46        | 4     | 18 | 44 | 43 1  |    | 76                                   | 5         | 49    | 16 | 58 12 |   |    |                                       |
| 17        | 1     | 45 | 5  | 5  | 17 26 |                                       | 47        | 4     | 23 | 4  | 43 45 |    | 77                                   | 5         | 50    | 44 | 58 27 |   |    |                                       |
| 18        | 1     | 51 | 4  | 5  | 18 26 |                                       | 48        | 4     | 27 | 19 | 44 27 |    | 78                                   | 5         | 52    | 6  | 58 40 |   |    |                                       |
| 19        | 1     | 57 | 1  | 5  | 19 25 |                                       | 49        | 4     | 31 | 29 | 45 9  |    | 79                                   | 5         | 53    | 22 | 58 53 |   |    |                                       |
| 20        | 2     | 2  | 56 | 5  | 20 24 |                                       | 50        | 4     | 35 | 34 | 45 50 |    | 80                                   | 5         | 54    | 31 | 59 4  |   |    |                                       |
| 21        | 2     | 8  | 49 | 5  | 21 22 |                                       | 51        | 4     | 39 | 34 | 46 31 |    | 81                                   | 5         | 55    | 33 | 59 15 |   |    |                                       |
| 22        | 2     | 14 | 39 | 5  | 22 21 |                                       | 52        | 4     | 43 | 29 | 47 10 |    | 82                                   | 5         | 56    | 37 | 59 24 |   |    |                                       |
| 23        | 2     | 20 | 27 | 5  | 23 19 |                                       | 53        | 4     | 47 | 19 | 47 48 |    | 83                                   | 5         | 57    | 40 | 59 33 |   |    |                                       |
| 24        | 2     | 26 | 12 | 5  | 24 16 |                                       | 54        | 4     | 51 | 4  | 48 25 |    | 84                                   | 5         | 58    | 1  | 59 40 |   |    |                                       |
| 25        | 2     | 31 | 55 | 5  | 25 13 |                                       | 55        | 4     | 54 | 41 | 49 3  |    | 85                                   | 5         | 58    | 17 | 59 47 |   |    |                                       |
| 26        | 2     | 37 | 35 | 5  | 26 10 |                                       | 56        | 4     | 58 | 17 | 49 38 |    | 86                                   | 5         | 59    | 7  | 59 51 |   |    |                                       |
| 27        | 2     | 43 | 12 | 5  | 27 6  |                                       | 57        | 5     | 1  | 43 | 50 14 |    | 87                                   | 5         | 59    | 30 | 59 55 |   |    |                                       |
| 28        | 2     | 48 | 46 | 5  | 28 2  |                                       | 58        | 5     | 5  | 8  | 50 48 |    | 88                                   | 5         | 59    | 47 | 59 57 |   |    |                                       |
| 29        | 2     | 54 | 17 | 5  | 28 57 |                                       | 59        | 5     | 8  | 26 | 51 20 |    | 89                                   | 5         | 59    | 57 | 59 59 |   |    |                                       |
| 30        | 2     | 59 | 45 | 5  | 29 52 |                                       | 60        | 5     | 11 | 38 | 51 52 |    | 90                                   | 6         | 0     | 0  | 60 0  |   |    |                                       |

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| 2        | 0 | 14 | 37 | 32       | 3 | 42 | 10 | 62       | 6 | 10 | 34 |
| 3        | 0 | 21 | 56 | 33       | 3 | 48 | 21 | 63       | 6 | 14 | 2  |
| 4        | 0 | 29 | 14 | 34       | 3 | 54 | 27 | 64       | 6 | 17 | 19 |
| 5        | 0 | 36 | 31 | 35       | 4 | 0  | 30 | 65       | 6 | 20 | 29 |
| 6        | 0 | 43 | 48 | 36       | 4 | 6  | 28 | 66       | 6 | 23 | 12 |
| 7        | 0 | 51 | 4  | 37       | 4 | 12 | 12 | 67       | 6 | 26 | 28 |
| 8        | 0 | 58 | 19 | 38       | 4 | 18 | 10 | 68       | 6 | 29 | 17 |
| 9        | 1 | 5  | 33 | 39       | 4 | 23 | 55 | 69       | 6 | 31 | 58 |
| 10       | 1 | 12 | 46 | 40       | 4 | 29 | 15 | 70       | 6 | 34 | 11 |
| 11       | 1 | 19 | 57 | 41       | 4 | 35 | 9  | 71       | 6 | 37 | 1  |
| 12       | 1 | 27 | 7  | 42       | 4 | 40 | 19 | 72       | 6 | 39 | 21 |
| 13       | 1 | 34 | 16 | 43       | 4 | 46 | 3  | 73       | 6 | 41 | 34 |
| 14       | 1 | 41 | 22 | 44       | 4 | 51 | 23 | 74       | 6 | 43 | 39 |
| 15       | 1 | 48 | 27 | 45       | 4 | 56 | 37 | 75       | 6 | 45 | 37 |
| 16       | 1 | 55 | 30 | 46       | 5 | 1  | 45 | 76       | 6 | 47 | 28 |
| 17       | 2 | 2  | 31 | 47       | 5 | 6  | 49 | 77       | 6 | 49 | 11 |
| 18       | 2 | 9  | 30 | 48       | 5 | 11 | 46 | 78       | 6 | 50 | 46 |
| 19       | 2 | 16 | 26 | 49       | 5 | 16 | 38 | 79       | 6 | 52 | 15 |
| 20       | 2 | 23 | 20 | 50       | 5 | 21 | 24 | 80       | 6 | 53 | 15 |
| 21       | 2 | 30 | 11 | 51       | 5 | 26 | 5  | 81       | 6 | 54 | 48 |
| 22       | 2 | 37 | 0  | 52       | 5 | 30 | 19 | 82       | 6 | 55 | 51 |
| 23       | 2 | 43 | 46 | 53       | 5 | 35 | 7  | 83       | 6 | 56 | 51 |
| 24       | 2 | 50 | 28 | 54       | 5 | 39 | 29 | 84       | 6 | 57 | 41 |
| 25       | 2 | 57 | 8  | 55       | 5 | 43 | 46 | 85       | 6 | 58 | 24 |
| 26       | 3 | 3  | 45 | 56       | 5 | 47 | 55 | 86       | 6 | 58 | 58 |
| 27       | 3 | 10 | 18 | 57       | 5 | 51 | 59 | 87       | 6 | 59 | 25 |
| 28       | 3 | 16 | 48 | 58       | 5 | 55 | 36 | 88       | 6 | 59 | 44 |
| 29       | 3 | 23 | 14 | 59       | 5 | 59 | 46 | 89       | 6 | 59 | 54 |
| 30       | 3 | 29 | 37 | 60       | 6 | 3  | 30 | 90       | 7 | 0  | 0  |

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| 1         | 0 | 8  | 21 | 1 2   | 31       | 4 | 6  | 38 | 30 39 | 61       | 6 | 50 | 30 | 52 20 |
| 2         | 0 | 16 | 42 | 2 4   | 32       | 4 | 13 | 46 | 31 31 | 62       | 7 | 1  | 31 | 52 50 |
| 3         | 0 | 25 | 2  | 3 7   | 33       | 4 | 20 | 50 | 32 25 | 63       | 7 | 7  | 24 | 53 20 |
| 4         | 0 | 33 | 21 | 4 8   | 34       | 4 | 27 | 49 | 33 18 | 64       | 7 | 11 | 9  | 53 48 |
| 5         | 0 | 41 | 42 | 5 10  | 35       | 4 | 34 | 43 | 34 9  | 65       | 7 | 14 | 46 | 54 17 |
| 6         | 0 | 50 | 8  | 6 11  | 36       | 4 | 41 | 32 | 35 1  | 66       | 7 | 18 | 16 | 54 42 |
| 7         | 0 | 58 | 19 | 7 14  | 37       | 4 | 48 | 16 | 36 52 | 67       | 7 | 21 | 37 | 55 8  |
| 8         | 1 | 6  | 16 | 8 15  | 38       | 4 | 54 | 55 | 37 41 | 68       | 7 | 24 | 50 | 55 31 |
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| 10        | 1 | 21 | 5  | 10 19 | 40       | 5 | 7  | 57 | 38 19 | 70       | 7 | 30 | 51 | 56 17 |
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| 13        | 1 | 47 | 39 | 13 21 | 43       | 5 | 26 | 47 | 40 41 | 73       | 7 | 39 | 54 | 57 19 |
| 14        | 1 | 55 | 46 | 14 22 | 44       | 5 | 32 | 51 | 41 27 | 74       | 7 | 41 | 17 | 57 38 |
| 15        | 2 | 1  | 52 | 15 22 | 45       | 5 | 38 | 51 | 42 12 | 75       | 7 | 43 | 32 | 57 55 |
| 16        | 2 | 11 | 55 | 16 22 | 46       | 5 | 44 | 44 | 42 56 | 76       | 7 | 45 | 39 | 58 10 |
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| 20        | 2 | 41 | 42 | 20 19 | 50       | 6 | 7  | 12 | 45 45 | 80       | 7 | 52 | 19 | 59 4  |
| 21        | 2 | 51 | 12 | 21 18 | 51       | 6 | 12 | 33 | 46 25 | 81       | 7 | 54 | 1  | 59 15 |
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| 23        | 3 | 7  | 1  | 23 14 | 53       | 6 | 22 | 51 | 47 44 | 83       | 7 | 56 | 24 | 59 31 |
| 24        | 3 | 14 | 42 | 24 11 | 54       | 6 | 27 | 51 | 48 21 | 84       | 7 | 57 | 27 | 59 40 |
| 25        | 3 | 21 | 19 | 25 8  | 55       | 6 | 32 | 46 | 48 58 | 85       | 7 | 58 | 10 | 59 45 |
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| 27        | 3 | 37 | 21 | 27 0  | 57       | 6 | 42 | 10 | 50 9  | 87       | 7 | 59 | 20 | 59 55 |
| 28        | 3 | 44 | 7  | 27 55 | 58       | 6 | 46 | 41 | 50 44 | 88       | 7 | 59 | 42 | 59 58 |
| 29        | 3 | 51 | 8  | 28 50 | 59       | 6 | 51 | 5  | 51 17 | 89       | 7 | 59 | 55 | 60 0  |
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| FRANCUS |  |  |  |  |  | FRANCUS |  |  |  |  |  | FRANCUS |  |  |  |  |  |
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| 6          | 1        | 2  | 24 | 10 | 5 8   |                       | 36       | 5 | 51 | 30 | 34 1  |                       | 66       | 9  | 7  | 30 | 54 45 |                       |
| 7          | 1        | 12 | 46 | 10 | 6 10  |                       | 37       | 5 | 59 | 55 | 34 52 |                       | 67       | 9  | 11 | 52 |       |                       |
| 8          | 1        | 23 | 5  | 10 | 7 11  |                       | 38       | 6 | 8  | 14 | 35 43 |                       | 68       | 9  | 15 | 24 | 55 5  |                       |
| 9          | 1        | 33 | 24 | 10 | 8 12  |                       | 39       | 6 | 16 | 26 | 36 31 |                       | 69       | 9  | 19 | 46 | 55 30 |                       |
| 10         | 1        | 43 | 41 | 10 | 9 14  |                       | 40       | 6 | 24 | 11 | 37 22 |                       | 70       | 9  | 23 | 28 | 55 54 |                       |
| 11         | 1        | 53 | 56 | 10 | 10 15 |                       | 41       | 6 | 32 | 29 | 38 11 |                       | 71       | 9  | 27 | 0  | 56 16 |                       |
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| 17         | 2        | 54 | 37 | 9  | 16 17 |                       | 47       | 7 | 17 | 46 | 42 49 |                       | 77       | 9  | 44 | 28 | 58 10 |                       |
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| 21         | 3        | 34 | 4  | 9  | 20 12 |                       | 51       | 7 | 45 | 20 | 45 39 |                       | 81       | 9  | 52 | 32 | 59 3  |                       |
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| 25         | 4        | 12 | 11 | 9  | 24 4  |                       | 55       | 8 | 10 | 39 | 48 15 |                       | 85       | 9  | 57 | 41 | 59 40 |                       |
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| 28         | 4        | 40 | 34 | 9  | 27 52 |                       | 58       | 8 | 28 | 6  | 50 4  |                       | 88       | 9  | 59 | 37 | 59 55 |                       |
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| 10       | 1 | 54 | 56 | 10 13 | 40       | 7 | 2  | 42 | 38 6  | 70       | 10 | 19 | 44 | 56 14 |
| 11       | 2 | 5  | 11 | 11 14 | 41       | 7 | 11 | 28 | 38 55 | 71       | 10 | 23 | 37 | 56 37 |
| 12       | 2 | 16 | 25 | 12 14 | 42       | 7 | 20 | 7  | 39 42 | 72       | 10 | 27 | 19 | 56 59 |
| 13       | 2 | 27 | 36 | 13 15 | 43       | 7 | 28 | 18 | 40 28 | 73       | 10 | 30 | 49 | 57 17 |
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| 16       | 3 | 0  | 51 | 16 14 | 46       | 7 | 51 | 21 | 42 44 | 76       | 10 | 40 | 10 | 58 8  |
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| 20       | 3 | 44 | 31 | 20 9  | 50       | 8 | 24 | 18 | 45 14 | 80       | 10 | 49 | 50 | 59 5  |
| 21       | 3 | 55 | 15 | 21 8  | 51       | 8 | 31 | 39 | 46 15 | 81       | 10 | 51 | 46 | 59 14 |
| 22       | 4 | 5  | 54 | 22 5  | 52       | 8 | 38 | 52 | 46 54 | 82       | 10 | 53 | 29 | 59 25 |
| 23       | 4 | 16 | 32 | 23 3  | 53       | 8 | 45 | 54 | 47 14 | 83       | 10 | 55 | 1  | 59 33 |
| 24       | 4 | 27 | 4  | 24 0  | 54       | 8 | 52 | 48 | 48 12 | 84       | 10 | 56 | 20 | 59 40 |
| 25       | 4 | 37 | 31 | 25 56 | 55       | 8 | 59 | 12 | 48 49 | 85       | 10 | 57 | 27 | 59 47 |
| 26       | 4 | 47 | 53 | 25 53 | 56       | 9 | 6  | 6  | 49 25 | 86       | 10 | 58 | 22 | 59 51 |
| 27       | 4 | 58 | 10 | 26 48 | 57       | 9 | 12 | 30 | 50 1  | 87       | 10 | 59 | 5  | 59 55 |
| 28       | 5 | 8  | 22 | 27 43 | 58       | 9 | 18 | 44 | 50 35 | 88       | 10 | 59 | 15 | 59 59 |
| 29       | 5 | 18 | 6  | 28 38 | 59       | 9 | 24 | 47 | 51 9  | 89       | 10 | 59 | 51 | 60 0  |
| 30       | 5 | 28 | 29 | 29 32 | 60       | 9 | 30 | 41 | 51 42 | 90       | 11 | 0  | 0  | 60 0  |

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| 1           | 0 | 12 | 28 | 31          | 6  | 8  | 50 | 61          | 10 | 28 | 37 |
|             |   | 12 | 29 |             |    | 10 | 42 |             |    | 6  | 4  |
| 2           | 0 | 24 | 57 | 32          | 6  | 19 | 32 | 62          | 10 | 34 | 41 |
|             |   | 12 | 28 |             |    | 10 | 35 |             |    | 5  | 51 |
| 3           | 0 | 37 | 25 | 33          | 6  | 30 | 7  | 63          | 10 | 40 | 32 |
|             |   | 12 | 27 |             |    | 10 | 28 |             |    | 5  | 40 |
| 4           | 0 | 49 | 52 | 34          | 6  | 40 | 35 | 64          | 10 | 46 | 12 |
|             |   | 12 | 26 |             |    | 10 | 21 |             |    | 5  | 28 |
| 5           | 1 | 2  | 18 | 35          | 6  | 50 | 54 | 65          | 10 | 51 | 40 |
|             |   | 12 | 25 |             |    | 10 | 14 |             |    | 5  | 16 |
| 6           | 1 | 14 | 41 | 36          | 7  | 1  | 10 | 66          | 10 | 56 | 50 |
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| 8           | 1 | 39 | 20 | 38          | 7  | 21 | 15 | 68          | 11 | 6  | 52 |
|             |   | 12 | 21 |             |    | 9  | 51 |             |    | 4  | 40 |
| 9           | 1 | 51 | 50 | 39          | 7  | 31 | 6  | 69          | 11 | 11 | 32 |
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| 10          | 2 | 4  | 9  | 40          | 7  | 40 | 40 | 70          | 11 | 15 | 56 |
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| 11          | 2 | 16 | 25 | 41          | 7  | 50 | 21 | 71          | 11 | 20 | 14 |
|             |   | 12 | 14 |             |    | 9  | 26 |             |    | 4  | 2  |
| 12          | 2 | 28 | 39 | 42          | 7  | 59 | 49 | 72          | 11 | 24 | 16 |
|             |   | 12 | 12 |             |    | 9  | 17 |             |    | 3  | 50 |
| 13          | 2 | 40 | 51 | 43          | 8  | 9  | 6  | 73          | 11 | 28 | 6  |
|             |   | 12 | 8  |             |    | 9  | 9  |             |    | 3  | 36 |
| 14          | 2 | 52 | 59 | 44          | 8  | 18 | 15 | 74          | 11 | 31 | 42 |
|             |   | 12 | 6  |             |    | 8  | 59 |             |    | 3  | 25 |
| 15          | 3 | 5  | 5  | 45          | 8  | 27 | 14 | 75          | 11 | 35 | 7  |
|             |   | 12 | 2  |             |    | 8  | 51 |             |    | 3  | 11 |
| 16          | 3 | 17 | 7  | 46          | 8  | 36 | 5  | 76          | 11 | 38 | 18 |
|             |   | 11 | 59 |             |    | 8  | 41 |             |    | 2  | 50 |
| 17          | 3 | 29 | 6  | 47          | 8  | 44 | 46 | 77          | 11 | 41 | 17 |
|             |   | 11 | 55 |             |    | 8  | 32 |             |    | 2  | 45 |
| 18          | 3 | 41 | 1  | 48          | 8  | 51 | 18 | 78          | 11 | 44 | 2  |
|             |   | 11 | 52 |             |    | 8  | 22 |             |    | 2  | 33 |
| 19          | 3 | 52 | 51 | 49          | 9  | 1  | 40 | 79          | 11 | 46 | 35 |
|             |   | 11 | 47 |             |    | 8  | 12 |             |    | 2  | 20 |
| 20          | 4 | 4  | 40 | 50          | 9  | 9  | 52 | 80          | 11 | 48 | 33 |
|             |   | 11 | 43 |             |    | 8  | 2  |             |    | 2  | 5  |
| 21          | 4 | 16 | 21 | 51          | 9  | 17 | 54 | 81          | 11 | 51 | 0  |
|             |   | 11 | 38 |             |    | 7  | 52 |             |    | 1  | 54 |
| 22          | 4 | 28 | 1  | 52          | 9  | 25 | 44 | 82          | 11 | 52 | 24 |
|             |   | 11 | 34 |             |    | 7  | 42 |             |    | 1  | 40 |
| 23          | 4 | 39 | 35 | 53          | 9  | 33 | 28 | 83          | 11 | 54 | 34 |
|             |   | 11 | 29 |             |    | 7  | 32 |             |    | 1  | 26 |
| 24          | 4 | 51 | 4  | 54          | 9  | 41 | 0  | 84          | 11 | 56 | 0  |
|             |   | 11 | 23 |             |    | 7  | 21 |             |    | 1  | 14 |
| 25          | 5 | 2  | 27 | 55          | 9  | 48 | 21 | 85          | 11 | 57 | 14 |
|             |   | 11 | 19 |             |    | 7  | 11 |             |    | 0  | 50 |
| 26          | 5 | 13 | 46 | 56          | 9  | 55 | 31 | 86          | 11 | 58 | 13 |
|             |   | 11 | 12 |             |    | 7  | 0  |             |    | 0  | 47 |
| 27          | 5 | 24 | 58 | 57          | 10 | 2  | 31 | 87          | 11 | 59 | 0  |
|             |   | 11 | 7  |             |    | 6  | 48 |             |    | 0  | 34 |
| 28          | 5 | 36 | 5  | 58          | 10 | 9  | 19 | 88          | 11 | 59 | 34 |
|             |   | 11 | 1  |             |    | 6  | 37 |             |    | 0  | 20 |
| 29          | 5 | 47 | 6  | 59          | 10 | 15 | 56 | 89          | 11 | 59 | 54 |
|             |   | 10 | 55 |             |    | 6  | 27 |             |    | 0  | 6  |
| 30          | 5 | 58 | 1  | 60          | 10 | 22 | 21 | 90          | 12 | 0  | 0  |
|             |   | 10 | 40 |             |    | 6  | 14 |             |    | 0  | 0  |

| ARCUS    |   |    |    |       | ARCUS    |    |    |    |       | ARCUS    |    |    |    |       |
|----------|---|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| Defectio |   |    |    |       | Defectio |    |    |    |       | Defectio |    |    |    |       |
| Arcus    |   |    |    |       | Arcus    |    |    |    |       | Arcus    |    |    |    |       |
| Late     |   |    |    |       | Late     |    |    |    |       | Late     |    |    |    |       |
| ratus    |   |    |    |       | ratus    |    |    |    |       | ratus    |    |    |    |       |
| m. fa.   |   |    |    |       | m. fa.   |    |    |    |       | m. fa.   |    |    |    |       |
| m. fa.   |   |    |    |       | m. fa.   |    |    |    |       | m. fa.   |    |    |    |       |
| 1        | 0 | 13 | 30 | 1 1   | 31       | 6  | 39 | 11 | 30 16 | 61       | 11 | 20 | 48 | 52 9  |
| 2        | 0 | 27 | 0  | 2 2   | 32       | 6  | 50 | 46 | 31 10 | 62       | 11 | 27 | 22 | 52 39 |
| 3        | 0 | 40 | 28 | 3 4   | 33       | 7  | 2  | 15 | 32 2  | 63       | 11 | 33 | 43 | 53 9  |
| 4        | 0 | 53 | 57 | 4 4   | 34       | 7  | 13 | 35 | 32 54 | 64       | 11 | 39 | 54 | 53 38 |
| 5        | 1 | 7  | 24 | 5 5   | 35       | 7  | 24 | 48 | 33 46 | 65       | 11 | 45 | 50 | 54 6  |
| 6        | 1 | 20 | 51 | 6 6   | 36       | 7  | 35 | 53 | 34 37 | 66       | 11 | 51 | 32 | 54 11 |
| 7        | 1 | 34 | 16 | 7 6   | 37       | 7  | 46 | 50 | 35 27 | 67       | 11 | 57 | 2  | 55 0  |
| 8        | 1 | 47 | 39 | 8 7   | 38       | 7  | 57 | 38 | 36 18 | 68       | 12 | 2  | 17 | 55 25 |
| 9        | 2 | 1  | 0  | 9 8   | 39       | 8  | 8  | 18 | 37 7  | 69       | 12 | 7  | 21 | 55 48 |
| 10       | 2 | 14 | 19 | 10 9  | 40       | 8  | 18 | 50 | 37 55 | 70       | 12 | 12 | 13 | 56 11 |
| 11       | 2 | 27 | 36 | 11 9  | 41       | 8  | 29 | 12 | 38 44 | 71       | 12 | 16 | 50 | 56 33 |
| 12       | 2 | 40 | 51 | 12 8  | 42       | 8  | 39 | 26 | 39 31 | 72       | 12 | 21 | 13 | 56 54 |
| 13       | 2 | 54 | 2  | 13 9  | 43       | 8  | 49 | 30 | 40 18 | 73       | 12 | 25 | 22 | 57 14 |
| 14       | 3 | 7  | 11 | 14 8  | 44       | 8  | 59 | 24 | 41 4  | 74       | 12 | 29 | 16 | 57 34 |
| 15       | 3 | 20 | 16 | 15 8  | 45       | 9  | 9  | 9  | 41 49 | 75       | 12 | 33 | 0  | 57 50 |
| 16       | 3 | 33 | 18 | 16 6  | 46       | 9  | 18 | 44 | 42 34 | 76       | 12 | 36 | 27 | 58 7  |
| 17       | 3 | 46 | 16 | 17 5  | 47       | 9  | 28 | 9  | 43 18 | 77       | 12 | 39 | 41 | 58 22 |
| 18       | 3 | 59 | 10 | 18 4  | 48       | 9  | 37 | 24 | 44 1  | 78       | 12 | 42 | 41 | 58 46 |
| 19       | 4 | 12 | 0  | 19 3  | 49       | 9  | 46 | 28 | 44 44 | 79       | 12 | 45 | 24 | 58 50 |
| 20       | 4 | 24 | 45 | 20 1  | 50       | 9  | 55 | 22 | 45 25 | 80       | 12 | 47 | 58 | 59 1  |
| 21       | 4 | 37 | 24 | 20 59 | 51       | 10 | 4  | 5  | 46 7  | 81       | 12 | 50 | 14 | 59 13 |
| 22       | 4 | 50 | 2  | 21 56 | 52       | 10 | 12 | 37 | 46 47 | 82       | 12 | 52 | 17 | 59 23 |
| 23       | 5 | 2  | 33 | 22 54 | 53       | 10 | 20 | 58 | 47 26 | 83       | 12 | 54 | 5  | 59 32 |
| 24       | 5 | 14 | 59 | 23 50 | 54       | 10 | 29 | 8  | 48 4  | 84       | 12 | 55 | 40 | 59 38 |
| 25       | 5 | 27 | 19 | 24 47 | 55       | 10 | 37 | 7  | 48 40 | 85       | 12 | 57 | 0  | 59 45 |
| 26       | 5 | 39 | 33 | 25 43 | 56       | 10 | 44 | 31 | 49 18 | 86       | 12 | 58 | 4  | 59 51 |
| 27       | 5 | 51 | 42 | 26 38 | 57       | 10 | 52 | 28 | 49 55 | 87       | 12 | 58 | 55 | 59 55 |
| 28       | 6 | 3  | 44 | 27 33 | 58       | 10 | 59 | 51 | 50 30 | 88       | 12 | 59 | 31 | 59 58 |
| 29       | 6 | 15 | 40 | 28 28 | 59       | 11 | 7  | 3  | 51 2  | 89       | 12 | 59 | 53 | 60 0  |
| 30       | 6 | 27 | 29 | 29 22 | 60       | 11 | 14 | 2  | 51 36 | 90       | 13 | 0  | 0  | 60 0  |

| ARCALES   |   |    |    |       | ARCALES   |    |    |    |       | ARCALES   |    |    |    |       | ARCALES   |   |   |    |       |
|-----------|---|----|----|-------|-----------|----|----|----|-------|-----------|----|----|----|-------|-----------|---|---|----|-------|
| Defécetia |   |    |    |       | Defécetia |    |    |    |       | Defécetia |    |    |    |       | Defécetia |   |   |    |       |
| Arcales   |   |    |    |       | Arcales   |    |    |    |       | Arcales   |    |    |    |       | Arcales   |   |   |    |       |
| g         | g | m  | fa | mi fa | g         | g  | m  | fa | mi fa | g         | g  | m  | fa | mi fa | g         | g | m | fa | mi fa |
| 1         | 0 | 14 | 31 | 1 1   | 31        | 7  | 9  | 27 | 10 10 | 61        | 12 | 12 | 57 | 51 3  |           |   |   |    |       |
| 2         | 0 | 29 | 2  | 2 1   | 32        | 7  | 21 | 36 | 31 1  | 62        | 12 | 20 | 6  | 51 36 |           |   |   |    |       |
| 3         | 0 | 43 | 32 | 3 2   | 33        | 7  | 34 | 17 | 31 56 | 63        | 12 | 26 | 52 | 51 7  |           |   |   |    |       |
| 4         | 0 | 58 | 1  | 4 3   | 34        | 7  | 46 | 28 | 32 49 | 64        | 12 | 31 | 31 | 51 35 |           |   |   |    |       |
| 5         | 1 | 12 | 29 | 5 4   | 35        | 7  | 58 | 34 | 41 40 | 65        | 12 | 39 | 56 | 54 3  |           |   |   |    |       |
| 6         | 1 | 26 | 37 | 6 4   | 36        | 8  | 10 | 30 | 44 31 | 66        | 12 | 46 | 5  | 54 31 |           |   |   |    |       |
| 7         | 1 | 41 | 21 | 7 5   | 37        | 8  | 22 | 17 | 35 22 | 67        | 12 | 52 | 2  | 54 57 |           |   |   |    |       |
| 8         | 1 | 55 | 46 | 8 6   | 38        | 8  | 33 | 26 | 36 12 | 68        | 12 | 57 | 44 | 55 22 |           |   |   |    |       |
| 9         | 2 | 10 | 8  | 9 6   | 39        | 8  | 45 | 23 | 37 2  | 69        | 13 | 1  | 11 | 55 47 |           |   |   |    |       |
| 10        | 2 | 24 | 28 | 10 5  | 40        | 8  | 56 | 45 | 37 50 | 70        | 13 | 8  | 24 | 56 10 |           |   |   |    |       |
| 11        | 2 | 38 | 45 | 11 6  | 41        | 9  | 7  | 36 | 38 38 | 71        | 13 | 13 | 23 | 56 32 |           |   |   |    |       |
| 12        | 2 | 52 | 39 | 12 6  | 42        | 9  | 18 | 57 | 39 25 | 72        | 13 | 18 | 7  | 56 51 |           |   |   |    |       |
| 13        | 3 | 7  | 11 | 13 5  | 43        | 9  | 29 | 48 | 40 12 | 73        | 13 | 22 | 16 | 57 13 |           |   |   |    |       |
| 14        | 3 | 21 | 19 | 14 5  | 44        | 9  | 40 | 28 | 40 59 | 74        | 13 | 26 | 4  | 57 32 |           |   |   |    |       |
| 15        | 3 | 35 | 24 | 15 3  | 45        | 9  | 50 | 58 | 41 44 | 75        | 13 | 30 | 50 | 57 49 |           |   |   |    |       |
| 16        | 3 | 49 | 24 | 16 3  | 46        | 10 | 1  | 18 | 42 29 | 76        | 13 | 34 | 34 | 58 6  |           |   |   |    |       |
| 17        | 4 | 3  | 21 | 17 2  | 47        | 10 | 11 | 27 | 43 11 | 77        | 13 | 38 | 1  | 58 22 |           |   |   |    |       |
| 18        | 4 | 17 | 14 | 18 1  | 48        | 10 | 21 | 25 | 44 36 | 78        | 13 | 41 | 17 | 58 16 |           |   |   |    |       |
| 19        | 4 | 31 | 3  | 18 58 | 49        | 10 | 31 | 12 | 44 38 | 79        | 13 | 44 | 16 | 58 49 |           |   |   |    |       |
| 20        | 4 | 44 | 46 | 19 57 | 50        | 10 | 40 | 47 | 45 21 | 80        | 13 | 46 | 59 | 59 2  |           |   |   |    |       |
| 21        | 4 | 58 | 25 | 20 54 | 51        | 10 | 50 | 12 | 46 1  | 81        | 13 | 49 | 27 | 59 13 |           |   |   |    |       |
| 22        | 5 | 11 | 58 | 21 52 | 52        | 10 | 59 | 24 | 46 41 | 82        | 13 | 51 | 40 | 59 22 |           |   |   |    |       |
| 23        | 5 | 25 | 27 | 22 48 | 53        | 11 | 8  | 24 | 47 22 | 83        | 13 | 53 | 37 | 59 31 |           |   |   |    |       |
| 24        | 5 | 39 | 49 | 23 45 | 54        | 11 | 17 | 12 | 48 0  | 84        | 13 | 55 | 18 | 59 40 |           |   |   |    |       |
| 25        | 5 | 52 | 6  | 24 41 | 55        | 11 | 25 | 47 | 48 27 | 85        | 13 | 56 | 45 | 59 45 |           |   |   |    |       |
| 26        | 6 | 5  | 16 | 25 37 | 56        | 11 | 34 | 11 | 49 15 | 86        | 13 | 57 | 45 | 59 51 |           |   |   |    |       |
| 27        | 6 | 18 | 20 | 26 32 | 57        | 11 | 42 | 21 | 49 49 | 87        | 13 | 58 | 20 | 59 54 |           |   |   |    |       |
| 28        | 6 | 31 | 17 | 27 28 | 58        | 11 | 50 | 21 | 50 24 | 88        | 13 | 59 | 29 | 59 57 |           |   |   |    |       |
| 29        | 6 | 44 | 8  | 28 22 | 59        | 11 | 58 | 5  | 50 59 | 89        | 13 | 59 | 51 | 59 59 |           |   |   |    |       |
| 30        | 6 | 56 | 31 | 29 17 | 60        | 12 | 5  | 38 | 51 31 | 90        | 14 | 0  | 0  | 60 0  |           |   |   |    |       |

| ARCUS    |   |       |    |    | ARCUS    |    |       |    |    | ARCUS    |    |        |    |    |
|----------|---|-------|----|----|----------|----|-------|----|----|----------|----|--------|----|----|
| Defectus |   |       |    |    | Defectus |    |       |    |    | Defectus |    |        |    |    |
| g        | m | Pa    | m  | Pa | g        | m  | Pa    | m  | Pa | g        | m  | Pa     | m  | Pa |
| 1        | 0 | 15 32 | 1  | 0  | 31       | 7  | 10 37 | 30 | 4  | 61       | 13 | 5 0    | 52 | 1  |
| 2        | 0 | 15 31 | 2  | 1  | 32       | 7  | 52 59 | 30 | 59 | 62       | 13 | 12 37  | 52 | 12 |
| 3        | 0 | 15 31 | 3  | 2  | 33       | 8  | 6 13  | 31 | 50 | 63       | 13 | 19 59  | 51 | 2  |
| 4        | 1 | 2 4   | 4  | 2  | 34       | 8  | 19 18 | 32 | 41 | 64       | 13 | 27 6   | 51 | 32 |
| 5        | 1 | 17 33 | 5  | 3  | 35       | 8  | 32 14 | 33 | 33 | 65       | 13 | 33 59  | 54 | 0  |
| 6        | 1 | 15 26 | 6  | 3  | 36       | 8  | 45 1  | 34 | 25 | 66       | 13 | 40 16  | 54 | 28 |
| 7        | 1 | 48 27 | 7  | 3  | 37       | 8  | 57 19 | 35 | 15 | 67       | 13 | 46 23  | 54 | 51 |
| 8        | 2 | 3 52  | 8  | 3  | 38       | 9  | 10 8  | 36 | 5  | 68       | 13 | 51 6   | 55 | 20 |
| 9        | 2 | 19 14 | 9  | 3  | 39       | 9  | 22 27 | 36 | 54 | 69       | 13 | 58 58  | 55 | 44 |
| 10       | 2 | 34 33 | 10 | 3  | 40       | 9  | 34 35 | 37 | 44 | 70       | 14 | 4 14   | 56 | 8  |
| 11       | 2 | 49 51 | 11 | 2  | 41       | 9  | 46 34 | 38 | 32 | 71       | 14 | 9 55   | 56 | 30 |
| 12       | 3 | 5 5   | 12 | 2  | 42       | 9  | 58 22 | 39 | 19 | 72       | 14 | 15 0   | 56 | 51 |
| 13       | 3 | 20 16 | 13 | 2  | 43       | 10 | 10 0  | 40 | 5  | 73       | 14 | 19 49  | 57 | 11 |
| 14       | 3 | 35 34 | 14 | 0  | 44       | 10 | 21 27 | 40 | 52 | 74       | 14 | 26 22  | 57 | 31 |
| 15       | 3 | 50 27 | 15 | 0  | 45       | 10 | 32 42 | 41 | 39 | 75       | 14 | 32 40  | 58 | 5  |
| 16       | 4 | 5 27  | 16 | 59 | 46       | 10 | 43 67 | 42 | 21 | 76       | 14 | 38 45  | 58 | 21 |
| 17       | 4 | 20 21 | 17 | 58 | 47       | 10 | 54 40 | 43 | 7  | 77       | 14 | 44 25  | 58 | 36 |
| 18       | 4 | 35 15 | 18 | 55 | 48       | 11 | 5 21  | 44 | 51 | 78       | 14 | 50 31  | 59 | 1  |
| 19       | 4 | 50 1  | 19 | 54 | 49       | 11 | 15 50 | 45 | 15 | 79       | 14 | 56 2   | 59 | 50 |
| 20       | 5 | 4 41  | 20 | 51 | 50       | 11 | 26 8  | 46 | 16 | 80       | 14 | 61 1   | 59 | 12 |
| 21       | 5 | 19 19 | 21 | 49 | 51       | 11 | 36 13 | 47 | 56 | 81       | 14 | 67 40  | 59 | 21 |
| 22       | 5 | 34 50 | 22 | 46 | 52       | 11 | 46 5  | 48 | 15 | 82       | 14 | 73 1   | 59 | 31 |
| 23       | 5 | 49 15 | 23 | 43 | 53       | 11 | 55 46 | 49 | 54 | 83       | 14 | 79 32  | 59 | 45 |
| 24       | 6 | 2 34  | 24 | 40 | 54       | 12 | 5 12  | 50 | 56 | 84       | 14 | 85 1   | 59 | 50 |
| 25       | 6 | 16 47 | 25 | 35 | 55       | 12 | 14 24 | 51 | 11 | 85       | 14 | 91 58  | 59 | 55 |
| 26       | 6 | 30 59 | 26 | 31 | 56       | 12 | 23 26 | 52 | 45 | 86       | 14 | 97 44  | 59 | 58 |
| 27       | 6 | 44 52 | 27 | 27 | 57       | 12 | 32 12 | 53 | 21 | 87       | 14 | 103 26 | 60 | 0  |
| 28       | 6 | 58 45 | 28 | 22 | 58       | 12 | 40 45 | 54 | 29 | 88       | 14 | 109 8  | 60 | 0  |
| 29       | 7 | 12 30 | 29 | 16 | 59       | 12 | 49 8  | 55 | 29 | 89       | 14 | 115 0  | 60 | 0  |
| 30       | 7 | 26 8  | 30 | 10 | 60       | 12 | 57 9  | 56 | 29 | 90       | 15 | 0 0    | 60 | 0  |



| Defectibus | ARCUS    |    |    |            | Defectibus | ARCUS    |    |    |            | Defectibus | ARCUS    |    |    |            | Defectibus | ARCUS    |    |    |            |
|------------|----------|----|----|------------|------------|----------|----|----|------------|------------|----------|----|----|------------|------------|----------|----|----|------------|
|            | Arcuales |    |    |            |            | Arcuales |    |    |            |            | Arcuales |    |    |            |            | Arcuales |    |    |            |
|            | g        | m  | Pa | Rate ratio |            | g        | m  | Pa | Rate ratio |            | g        | m  | Pa | Rate ratio |            | g        | m  | Pa | Rate ratio |
| 1          | 0        | 16 | 32 | 1          | 1          | 11       | 8  | 9  | 41         | 15         | 61       | 13 | 57 | 1          | 1          | 11       | 8  | 9  | 41         |
| 2          | 0        | 16 | 32 | 2          | 1          | 12       | 8  | 21 | 56         | 7          | 62       | 14 | 57 | 1          | 2          | 12       | 8  | 21 | 56         |
| 3          | 0        | 49 | 36 | 3          | 0          | 13       | 8  | 38 | 1          | 13         | 63       | 14 | 13 | 1          | 3          | 13       | 8  | 38 | 1          |
| 4          | 1        | 6  | 6  | 4          | 1          | 14       | 8  | 51 | 59         | 13         | 64       | 14 | 20 | 18         | 4          | 14       | 8  | 51 | 59         |
| 5          | 1        | 22 | 16 | 5          | 1          | 15       | 9  | 5  | 48         | 13         | 65       | 14 | 27 | 59         | 5          | 15       | 9  | 5  | 48         |
| 6          | 1        | 16 | 28 | 6          | 1          | 16       | 9  | 19 | 26         | 13         | 66       | 14 | 38 | 4          | 6          | 16       | 9  | 19 | 26         |
| 7          | 1        | 55 | 30 | 7          | 3          | 17       | 9  | 32 | 54         | 13         | 67       | 14 | 41 | 51         | 7          | 17       | 9  | 32 | 54         |
| 8          | 2        | 11 | 55 | 8          | 0          | 18       | 9  | 46 | 13         | 13         | 68       | 14 | 48 | 26         | 8          | 18       | 9  | 46 | 13         |
| 9          | 2        | 28 | 17 | 9          | 0          | 19       | 9  | 59 | 21         | 12         | 69       | 14 | 54 | 42         | 9          | 19       | 9  | 59 | 21         |
| 10         | 2        | 44 | 16 | 10         | 1          | 20       | 10 | 12 | 19         | 12         | 70       | 15 | 0  | 42         | 10         | 20       | 10 | 12 | 19         |
| 11         | 3        | 0  | 34 | 11         | 0          | 21       | 10 | 25 | 6          | 12         | 71       | 15 | 5  | 25         | 11         | 21       | 10 | 25 | 6          |
| 12         | 3        | 17 | 7  | 11         | 59         | 22       | 10 | 37 | 41         | 12         | 72       | 15 | 11 | 51         | 12         | 22       | 10 | 37 | 41         |
| 13         | 3        | 34 | 18 | 12         | 58         | 23       | 10 | 50 | 5          | 12         | 73       | 15 | 17 | 0          | 13         | 23       | 10 | 50 | 5          |
| 14         | 3        | 49 | 24 | 13         | 59         | 24       | 11 | 2  | 19         | 12         | 74       | 15 | 21 | 51         | 14         | 24       | 11 | 2  | 19         |
| 15         | 4        | 5  | 27 | 14         | 56         | 25       | 11 | 14 | 21         | 11         | 75       | 15 | 26 | 28         | 15         | 25       | 11 | 14 | 21         |
| 16         | 4        | 21 | 26 | 15         | 55         | 26       | 11 | 26 | 10         | 11         | 76       | 15 | 30 | 45         | 16         | 26       | 11 | 26 | 10         |
| 17         | 4        | 37 | 21 | 16         | 52         | 27       | 11 | 37 | 47         | 11         | 77       | 15 | 34 | 46         | 17         | 27       | 11 | 37 | 47         |
| 18         | 4        | 53 | 10 | 17         | 51         | 28       | 11 | 49 | 12         | 11         | 78       | 15 | 38 | 29         | 18         | 28       | 11 | 49 | 12         |
| 19         | 5        | 8  | 35 | 18         | 48         | 29       | 12 | 0  | 25         | 10         | 79       | 15 | 41 | 35         | 19         | 29       | 12 | 0  | 25         |
| 20         | 5        | 24 | 34 | 19         | 46         | 30       | 12 | 11 | 34         | 10         | 80       | 15 | 45 | 2          | 20         | 30       | 12 | 11 | 34         |
| 21         | 5        | 40 | 8  | 20         | 43         | 31       | 12 | 22 | 9          | 10         | 81       | 15 | 47 | 52         | 21         | 31       | 12 | 22 | 9          |
| 22         | 5        | 55 | 36 | 21         | 40         | 32       | 12 | 32 | 42         | 10         | 82       | 15 | 50 | 25         | 22         | 32       | 12 | 32 | 42         |
| 23         | 6        | 10 | 58 | 22         | 37         | 33       | 12 | 43 | 1          | 9          | 83       | 15 | 52 | 39         | 23         | 33       | 12 | 43 | 1          |
| 24         | 6        | 26 | 14 | 23         | 33         | 34       | 12 | 51 | 6          | 9          | 84       | 15 | 54 | 16         | 24         | 34       | 12 | 51 | 6          |
| 25         | 6        | 41 | 22 | 24         | 29         | 35       | 13 | 0  | 52         | 9          | 85       | 15 | 56 | 15         | 25         | 35       | 13 | 0  | 52         |
| 26         | 6        | 56 | 28 | 25         | 25         | 36       | 13 | 12 | 16         | 9          | 86       | 15 | 58 | 14         | 26         | 36       | 13 | 12 | 16         |
| 27         | 7        | 11 | 19 | 26         | 20         | 37       | 13 | 22 | 58         | 8          | 87       | 15 | 58 | 39         | 27         | 37       | 13 | 22 | 58         |
| 28         | 7        | 26 | 7  | 27         | 14         | 38       | 13 | 31 | 8          | 8          | 88       | 15 | 59 | 24         | 28         | 38       | 13 | 31 | 8          |
| 29         | 7        | 40 | 46 | 28         | 9          | 39       | 13 | 40 | 38         | 8          | 89       | 15 | 59 | 31         | 29         | 39       | 13 | 40 | 38         |
| 30         | 7        | 55 | 19 | 29         | 3          | 40       | 13 | 48 | 38         | 8          | 90       | 16 | 0  | 0          | 30         | 40       | 13 | 48 | 38         |

| ARCUS    |   |       |    |      |       | ARCUS    |    |       |    |      |       | ARCUS    |    |       |    |      |       |
|----------|---|-------|----|------|-------|----------|----|-------|----|------|-------|----------|----|-------|----|------|-------|
| Defectio |   | Arcus |    | Rate |       | Defectio |    | Arcus |    | Rate |       | Defectio |    | Arcus |    | Rate |       |
| g        | m | fa    | m  | fa   | m     | g        | m  | fa    | m  | fa   | m     | g        | m  | fa    | m  | fa   | m     |
| 1        | 0 | 17 33 | 1  | 0    | 17 33 | 31       | 8  | 19 38 | 29 | 50   | 29 50 | 61       | 14 | 48 57 | 51 | 53   | 51 53 |
| 2        | 0 | 17 33 | 2  | 0    | 17 33 | 32       | 8  | 54 46 | 30 | 41   | 30 41 | 62       | 14 | 57 27 | 52 | 24   | 52 24 |
| 3        | 0 | 52 36 | 3  | 0    | 52 36 | 33       | 9  | 19 49 | 31 | 36   | 31 36 | 63       | 15 | 6 0   | 53 | 54   | 53 54 |
| 4        | 1 | 10 7  | 4  | 0    | 17 30 | 34       | 9  | 24 34 | 32 | 28   | 32 28 | 64       | 15 | 14 7  | 54 | 25   | 54 25 |
| 5        | 1 | 27 37 | 5  | 0    | 17 28 | 35       | 9  | 30 14 | 33 | 19   | 33 19 | 65       | 15 | 21 56 | 55 | 26   | 55 26 |
| 6        | 1 | 45 5  | 6  | 0    | 17 26 | 36       | 9  | 35 41 | 34 | 10   | 34 10 | 66       | 15 | 29 20 | 56 | 27   | 56 27 |
| 7        | 2 | 1 11  | 7  | 0    | 17 24 | 37       | 10 | 8 1   | 35 | 1    | 35 1  | 67       | 15 | 36 45 | 57 | 28   | 57 28 |
| 8        | 2 | 19 55 | 8  | 0    | 17 22 | 38       | 10 | 13 58 | 35 | 51   | 35 51 | 68       | 15 | 44 6  | 58 | 29   | 58 29 |
| 9        | 2 | 37 17 | 9  | 0    | 17 20 | 39       | 10 | 16 9  | 36 | 40   | 36 40 | 69       | 15 | 50 24 | 59 | 30   | 59 30 |
| 10       | 2 | 54 37 | 10 | 0    | 17 16 | 40       | 10 | 21 55 | 37 | 30   | 37 30 | 70       | 15 | 56 47 | 60 | 31   | 60 31 |
| 11       | 3 | 11 53 | 11 | 0    | 17 13 | 41       | 11 | 1 31  | 38 | 17   | 38 17 | 71       | 16 | 2 51  | 61 | 32   | 61 32 |
| 12       | 3 | 29 6  | 12 | 0    | 17 10 | 42       | 11 | 16 54 | 39 | 6    | 39 6  | 72       | 16 | 8 30  | 62 | 33   | 62 33 |
| 13       | 3 | 46 16 | 13 | 0    | 17 5  | 43       | 11 | 20 6  | 40 | 53   | 40 53 | 73       | 16 | 14 10 | 63 | 34   | 63 34 |
| 14       | 4 | 3 21  | 14 | 0    | 17 2  | 44       | 11 | 25 5  | 41 | 40   | 41 40 | 74       | 16 | 19 31 | 64 | 35   | 64 35 |
| 15       | 4 | 20 23 | 15 | 0    | 16 58 | 45       | 11 | 30 31 | 42 | 24   | 42 24 | 75       | 16 | 24 15 | 65 | 36   | 65 36 |
| 16       | 4 | 37 21 | 16 | 0    | 16 52 | 46       | 12 | 3 27  | 43 | 10   | 43 10 | 76       | 16 | 29 49 | 66 | 37   | 66 37 |
| 17       | 4 | 54 13 | 17 | 0    | 16 48 | 47       | 12 | 8 49  | 44 | 54   | 44 54 | 77       | 16 | 34 6  | 67 | 38   | 67 38 |
| 18       | 5 | 11 1  | 18 | 0    | 16 42 | 48       | 12 | 13 57 | 45 | 37   | 45 37 | 78       | 16 | 39 1  | 68 | 39   | 68 39 |
| 19       | 5 | 27 43 | 19 | 0    | 16 37 | 49       | 12 | 18 54 | 46 | 20   | 46 20 | 79       | 16 | 44 42 | 69 | 40   | 69 40 |
| 20       | 5 | 44 20 | 20 | 0    | 16 31 | 50       | 12 | 23 31 | 47 | 2    | 47 2  | 80       | 16 | 49 1  | 70 | 41   | 70 41 |
| 21       | 6 | 0 51  | 21 | 0    | 16 25 | 51       | 13 | 28 8  | 48 | 44   | 48 44 | 81       | 16 | 54 4  | 71 | 42   | 71 42 |
| 22       | 6 | 17 16 | 22 | 0    | 16 19 | 52       | 13 | 33 13 | 49 | 25   | 49 25 | 82       | 16 | 59 24 | 72 | 43   | 72 43 |
| 23       | 6 | 33 35 | 23 | 0    | 16 13 | 53       | 13 | 38 11 | 50 | 5    | 50 5  | 83       | 16 | 64 10 | 73 | 44   | 73 44 |
| 24       | 6 | 49 47 | 24 | 0    | 16 7  | 54       | 13 | 43 54 | 51 | 43   | 51 43 | 84       | 16 | 69 15 | 74 | 45   | 74 45 |
| 25       | 7 | 5 51  | 25 | 0    | 15 58 | 55       | 13 | 48 25 | 52 | 21   | 52 21 | 85       | 16 | 74 26 | 75 | 46   | 75 46 |
| 26       | 7 | 21 49 | 26 | 0    | 15 50 | 56       | 14 | 53 39 | 53 | 59   | 53 59 | 86       | 16 | 79 26 | 76 | 47   | 76 47 |
| 27       | 7 | 37 39 | 27 | 0    | 15 42 | 57       | 14 | 58 44 | 54 | 36   | 54 36 | 87       | 16 | 84 31 | 77 | 48   | 77 48 |
| 28       | 7 | 53 21 | 28 | 0    | 15 34 | 58       | 14 | 63 38 | 55 | 11   | 55 11 | 88       | 16 | 89 31 | 78 | 49   | 78 49 |
| 29       | 8 | 9 55  | 29 | 0    | 15 26 | 59       | 14 | 68 9  | 56 | 45   | 56 45 | 89       | 16 | 94 31 | 79 | 50   | 79 50 |
| 30       | 8 | 24 21 | 30 | 0    | 15 17 | 60       | 14 | 73 8  | 57 | 20   | 57 20 | 90       | 17 | 0 0   | 80 | 51   | 80 51 |

| ARCAUS     |         |            |        | ARCAUS     |        |            |          | ARCAUS     |        |            |        |
|------------|---------|------------|--------|------------|--------|------------|----------|------------|--------|------------|--------|
| Defectibus |         |            |        | Defectibus |        |            |          | Defectibus |        |            |        |
| Defectibus | Arcaus  | Defectibus | Arcaus | Defectibus | Arcaus | Defectibus | Arcaus   | Defectibus | Arcaus | Defectibus | Arcaus |
| 1          | 0 18 33 | 0 59       | 31     | 0 16 1     | 29 41  | 61         | 15 40 9  | 51 98      |        |            |        |
| 2          | 0 18 31 | 1 59       | 32     | 9 15 52    | 30 36  | 62         | 15 50 8  | 52 20      |        |            |        |
| 3          | 0 55 36 | 2 50       | 33     | 9 41 21    | 31 27  | 63         | 15 58 8  | 52 51      |        |            |        |
| 4          | 1 14 7  | 3 58       | 34     | 9 57 2     | 32 20  | 64         | 16 7 12  | 53 21      |        |            |        |
| 5          | 1 32 16 | 4 58       | 35     | 10 12 33   | 33 11  | 65         | 16 15 30 | 53 51      |        |            |        |
| 6          | 1 51 4  | 5 57       | 36     | 10 27 51   | 34 3   | 66         | 16 23 51 | 54 39      |        |            |        |
| 7          | 2 9 10  | 6 56       | 37     | 10 41 4    | 34 52  | 67         | 16 31 24 | 54 46      |        |            |        |
| 8          | 2 27 56 | 7 55       | 38     | 10 58 2    | 35 43  | 68         | 16 38 26 | 55 12      |        |            |        |
| 9          | 2 46 15 | 8 55       | 39     | 11 12 49   | 36 33  | 69         | 16 46 4  | 55 36      |        |            |        |
| 10         | 3 4 34  | 9 51       | 40     | 11 27 25   | 37 22  | 70         | 16 52 51 | 56 0       |        |            |        |
| 11         | 3 22 49 | 10 51      | 41     | 11 41 48   | 38 11  | 71         | 16 59 19 | 56 23      |        |            |        |
| 12         | 3 41 1  | 11 52      | 42     | 11 56 0    | 38 58  | 72         | 17 5 28  | 56 45      |        |            |        |
| 13         | 3 59 10 | 12 50      | 43     | 12 9 30    | 39 45  | 73         | 17 11 18 | 57 6       |        |            |        |
| 14         | 4 17 14 | 13 49      | 44     | 12 23 45   | 40 31  | 74         | 17 16 49 | 57 26      |        |            |        |
| 15         | 4 35 15 | 14 44      | 45     | 12 37 17   | 41 18  | 75         | 17 22 0  | 57 44      |        |            |        |
| 16         | 4 53 10 | 15 45      | 46     | 12 50 37   | 42 2   | 76         | 17 26 52 | 58 1       |        |            |        |
| 17         | 5 11 1  | 16 42      | 47     | 13 3 43    | 42 46  | 77         | 17 31 24 | 58 18      |        |            |        |
| 18         | 5 28 47 | 17 40      | 48     | 13 16 34   | 43 31  | 78         | 17 35 37 | 58 33      |        |            |        |
| 19         | 5 46 27 | 18 37      | 49     | 13 29 12   | 44 14  | 79         | 17 39 30 | 58 46      |        |            |        |
| 20         | 6 4 1   | 19 35      | 50     | 13 41 35   | 44 56  | 80         | 17 43 3  | 58 59      |        |            |        |
| 21         | 6 21 29 | 20 32      | 51     | 13 53 44   | 45 37  | 81         | 17 46 15 | 59 11      |        |            |        |
| 22         | 6 38 51 | 21 28      | 52     | 14 5 38    | 46 18  | 82         | 17 49 8  | 59 21      |        |            |        |
| 23         | 6 56 6  | 22 24      | 53     | 14 17 16   | 46 58  | 83         | 17 51 40 | 59 31      |        |            |        |
| 24         | 7 13 14 | 23 20      | 54     | 14 28 39   | 47 18  | 84         | 17 53 52 | 59 39      |        |            |        |
| 25         | 7 30 14 | 24 16      | 55     | 14 39 47   | 48 16  | 85         | 17 55 45 | 59 44      |        |            |        |
| 26         | 7 47 8  | 25 11      | 56     | 14 50 38   | 48 54  | 86         | 17 57 17 | 59 50      |        |            |        |
| 27         | 8 4 52  | 26 7       | 57     | 15 1 14    | 49 30  | 87         | 17 58 28 | 59 54      |        |            |        |
| 28         | 8 20 29 | 27 1       | 58     | 15 11 33   | 50 6   | 88         | 17 59 19 | 59 57      |        |            |        |
| 29         | 8 36 58 | 27 55      | 59     | 15 21 35   | 50 41  | 89         | 17 59 49 | 59 59      |        |            |        |
| 30         | 8 53 18 | 28 49      | 60     | 15 31 21   | 51 15  | 90         | 18 0 0   | 60 0       |        |            |        |

| ARCUS   |   |    |    |    | ARCUS   |    |    |    |    | ARCUS   |    |    |    |    |
|---------|---|----|----|----|---------|----|----|----|----|---------|----|----|----|----|
| Arcules |   |    |    |    | Arcules |    |    |    |    | Arcules |    |    |    |    |
| Defécit | g | m  | fa | mi | Defécit | g  | m  | fa | mi | Defécit | g  | m  | fa | mi |
| 1       | 0 | 19 | 32 | 0  | 31      | 9  | 30 | 11 | 29 | 61      | 16 | 32 | 38 | 51 |
| 2       | 0 | 30 | 4  | 1  | 32      | 9  | 56 | 5  | 30 | 62      | 16 | 42 | 21 | 52 |
| 3       | 0 | 58 | 35 | 2  | 33      | 10 | 12 | 48 | 11 | 63      | 16 | 51 | 46 | 52 |
| 4       | 1 | 18 | 5  | 3  | 34      | 10 | 29 | 22 | 32 | 64      | 17 | 0  | 51 | 52 |
| 5       | 1 | 37 | 34 | 4  | 35      | 10 | 45 | 44 | 32 | 65      | 17 | 8  | 48 | 51 |
| 6       | 1 | 57 | 1  | 5  | 36      | 11 | 1  | 56 | 33 | 66      | 17 | 18 | 10 | 54 |
| 7       | 2 | 16 | 26 | 6  | 37      | 11 | 17 | 56 | 34 | 67      | 17 | 26 | 20 | 54 |
| 8       | 2 | 35 | 49 | 7  | 38      | 11 | 33 | 45 | 35 | 68      | 17 | 34 | 10 | 55 |
| 9       | 2 | 55 | 10 | 8  | 39      | 11 | 49 | 22 | 36 | 69      | 17 | 41 | 40 | 55 |
| 10      | 3 | 14 | 27 | 9  | 40      | 12 | 4  | 47 | 37 | 70      | 17 | 48 | 51 | 55 |
| 11      | 3 | 33 | 42 | 10 | 41      | 12 | 19 | 59 | 38 | 71      | 17 | 55 | 42 | 56 |
| 12      | 3 | 52 | 53 | 11 | 42      | 12 | 34 | 58 | 39 | 72      | 18 | 2  | 13 | 56 |
| 13      | 4 | 12 | 0  | 12 | 43      | 12 | 49 | 44 | 40 | 73      | 18 | 8  | 24 | 57 |
| 14      | 4 | 31 | 1  | 13 | 44      | 13 | 4  | 16 | 41 | 74      | 18 | 14 | 15 | 57 |
| 15      | 4 | 50 | 1  | 14 | 45      | 13 | 18 | 35 | 42 | 75      | 18 | 19 | 44 | 57 |
| 16      | 5 | 8  | 54 | 15 | 46      | 13 | 32 | 19 | 43 | 76      | 18 | 24 | 51 | 58 |
| 17      | 5 | 27 | 41 | 16 | 47      | 13 | 46 | 29 | 44 | 77      | 18 | 29 | 42 | 58 |
| 18      | 5 | 46 | 27 | 17 | 48      | 14 | 0  | 5  | 45 | 78      | 18 | 34 | 10 | 58 |
| 19      | 6 | 5  | 4  | 18 | 49      | 14 | 13 | 26 | 46 | 79      | 18 | 38 | 16 | 58 |
| 20      | 6 | 23 | 36 | 19 | 50      | 14 | 26 | 11 | 47 | 80      | 18 | 42 | 2  | 58 |
| 21      | 6 | 42 | 1  | 20 | 51      | 14 | 39 | 21 | 48 | 81      | 18 | 45 | 26 | 59 |
| 22      | 7 | 0  | 19 | 21 | 52      | 14 | 51 | 56 | 49 | 82      | 18 | 48 | 29 | 59 |
| 23      | 7 | 18 | 30 | 22 | 53      | 15 | 4  | 14 | 50 | 83      | 18 | 51 | 11 | 59 |
| 24      | 7 | 36 | 34 | 23 | 54      | 15 | 16 | 17 | 51 | 84      | 18 | 53 | 31 | 59 |
| 25      | 7 | 54 | 30 | 24 | 55      | 15 | 28 | 3  | 52 | 85      | 18 | 55 | 29 | 59 |
| 26      | 8 | 12 | 19 | 25 | 56      | 15 | 39 | 32 | 53 | 86      | 18 | 57 | 1  | 59 |
| 27      | 8 | 29 | 39 | 26 | 57      | 15 | 50 | 44 | 54 | 87      | 18 | 58 | 22 | 59 |
| 28      | 8 | 47 | 30 | 27 | 58      | 16 | 1  | 39 | 55 | 88      | 18 | 59 | 16 | 59 |
| 29      | 9 | 4  | 51 | 28 | 59      | 16 | 12 | 16 | 56 | 89      | 18 | 59 | 48 | 60 |
| 30      | 9 | 22 | 7  | 29 | 60      | 16 | 22 | 36 | 57 | 90      | 19 | 0  | 0  | 60 |

| Defectus. | ARCUS       |    |    |       | Rate ratio. | Defectus. | ARCUS       |    |       |      | Rate ratio. | Defectus. | ARCUS       |       |    |      | Rate ratio. | Defectus. | ARCUS |   |    |      | Rate ratio. |
|-----------|-------------|----|----|-------|-------------|-----------|-------------|----|-------|------|-------------|-----------|-------------|-------|----|------|-------------|-----------|-------|---|----|------|-------------|
|           | Rate ratio. |    |    |       |             |           | Rate ratio. |    |       |      |             |           | Rate ratio. |       |    |      |             |           |       |   |    |      |             |
|           | g           | m  | fa | m fa  |             |           | g           | m  | fa    | m fa |             |           | g           | m     | fa | m fa |             |           | g     | m | fa | m fa |             |
| 1         | 0           | 26 | 31 | 0 29  | 31          | 10        | 8           | 44 | 29 26 | 61   | 17          | 24        | 21          | 51 37 |    |      |             |           |       |   |    |      |             |
| 2         | 0           | 41 | 2  | 1 58  | 32          | 10        | 26          | 31 | 30 19 | 62   | 17          | 34        | 17          | 52 11 |    |      |             |           |       |   |    |      |             |
| 3         | 1           | 1  | 12 | 2 57  | 33          | 10        | 44          | 8  | 31 11 | 63   | 17          | 44        | 33          | 52 43 |    |      |             |           |       |   |    |      |             |
| 4         | 1           | 22 | 2  | 3 55  | 34          | 11        | 1           | 31 | 32 3  | 64   | 17          | 54        | 10          | 53 13 |    |      |             |           |       |   |    |      |             |
| 5         | 1           | 42 | 30 | 4 54  | 35          | 11        | 18          | 14 | 32 55 | 65   | 18          | 3         | 28          | 53 42 |    |      |             |           |       |   |    |      |             |
| 6         | 2           | 2  | 56 | 5 52  | 36          | 11        | 35          | 3  | 33 47 | 66   | 18          | 12        | 25          | 54 12 |    |      |             |           |       |   |    |      |             |
| 7         | 2           | 21 | 20 | 6 51  | 37          | 11        | 52          | 41 | 34 17 | 67   | 18          | 21        | 2           | 54 40 |    |      |             |           |       |   |    |      |             |
| 8         | 2           | 41 | 42 | 7 50  | 38          | 12        | 9           | 21 | 35 26 | 68   | 18          | 29        | 19          | 55 6  |    |      |             |           |       |   |    |      |             |
| 9         | 3           | 4  | 1  | 8 49  | 39          | 12        | 25          | 47 | 36 15 | 69   | 18          | 37        | 15          | 55 32 |    |      |             |           |       |   |    |      |             |
| 10        | 3           | 24 | 18 | 9 47  | 40          | 12        | 42          | 0  | 37 5  | 70   | 18          | 44        | 49          | 55 57 |    |      |             |           |       |   |    |      |             |
| 11        | 3           | 44 | 31 | 10 44 | 41          | 12        | 58          | 4  | 37 54 | 71   | 18          | 52        | 4           | 56 20 |    |      |             |           |       |   |    |      |             |
| 12        | 4           | 4  | 40 | 11 43 | 42          | 13        | 13          | 47 | 38 42 | 72   | 18          | 58        | 56          | 56 43 |    |      |             |           |       |   |    |      |             |
| 13        | 4           | 24 | 45 | 12 41 | 43          | 13        | 29          | 20 | 39 29 | 73   | 19          | 5         | 29          | 57 3  |    |      |             |           |       |   |    |      |             |
| 14        | 4           | 44 | 46 | 13 39 | 44          | 13        | 44          | 39 | 40 15 | 74   | 19          | 11        | 40          | 57 21 |    |      |             |           |       |   |    |      |             |
| 15        | 5           | 4  | 43 | 14 38 | 45          | 13        | 59          | 5  | 41 1  | 75   | 19          | 17        | 28          | 57 41 |    |      |             |           |       |   |    |      |             |
| 16        | 5           | 24 | 34 | 15 34 | 46          | 14        | 14          | 34 | 41 46 | 76   | 19          | 22        | 55          | 57 59 |    |      |             |           |       |   |    |      |             |
| 17        | 5           | 44 | 30 | 16 31 | 47          | 14        | 29          | 8  | 42 32 | 77   | 19          | 28        | 0           | 58 15 |    |      |             |           |       |   |    |      |             |
| 18        | 6           | 4  | 1  | 17 28 | 48          | 14        | 41          | 28 | 43 15 | 78   | 19          | 32        | 42          | 58 31 |    |      |             |           |       |   |    |      |             |
| 19        | 6           | 21 | 36 | 18 25 | 49          | 14        | 57          | 32 | 43 59 | 79   | 19          | 37        | 2           | 58 46 |    |      |             |           |       |   |    |      |             |
| 20        | 6           | 41 | 4  | 19 21 | 50          | 15        | 11          | 20 | 44 42 | 80   | 19          | 41        | 1           | 58 58 |    |      |             |           |       |   |    |      |             |
| 21        | 7           | 2  | 25 | 20 18 | 51          | 15        | 24          | 52 | 45 23 | 81   | 19          | 44        | 37          | 59 11 |    |      |             |           |       |   |    |      |             |
| 22        | 7           | 21 | 40 | 21 14 | 52          | 15        | 38          | 8  | 46 4  | 82   | 19          | 47        | 51          | 59 19 |    |      |             |           |       |   |    |      |             |
| 23        | 7           | 40 | 47 | 22 10 | 53          | 15        | 51          | 6  | 46 45 | 83   | 19          | 50        | 41          | 59 29 |    |      |             |           |       |   |    |      |             |
| 24        | 7           | 59 | 47 | 23 6  | 54          | 16        | 3           | 48 | 47 25 | 84   | 19          | 53        | 9           | 59 38 |    |      |             |           |       |   |    |      |             |
| 25        | 8           | 18 | 39 | 24 1  | 55          | 16        | 12          | 12 | 48 4  | 85   | 19          | 55        | 15          | 59 44 |    |      |             |           |       |   |    |      |             |
| 26        | 8           | 37 | 22 | 24 56 | 56          | 16        | 28          | 19 | 48 42 | 86   | 19          | 56        | 43          | 59 50 |    |      |             |           |       |   |    |      |             |
| 27        | 8           | 55 | 57 | 25 51 | 57          | 16        | 40          | 8  | 49 19 | 87   | 19          | 58        | 17          | 59 55 |    |      |             |           |       |   |    |      |             |
| 28        | 9           | 14 | 21 | 26 46 | 58          | 16        | 51          | 39 | 49 55 | 88   | 19          | 59        | 14          | 59 58 |    |      |             |           |       |   |    |      |             |
| 29        | 9           | 32 | 40 | 27 39 | 59          | 17        | 2           | 52 | 50 30 | 89   | 19          | 59        | 49          | 60 0  |    |      |             |           |       |   |    |      |             |
| 30        | 9           | 50 | 47 | 28 33 | 60          | 17        | 13          | 45 | 51 4  | 90   | 20          | 0         | 0           | 60 0  |    |      |             |           |       |   |    |      |             |

| ARCUS      |    |     |     |     |     |     |     |     |     | Diff<br>fret<br>na | ARCUS      |     |     |     |     |     |     |     |     |     | Diff<br>fret<br>na | ARCUS      |     |     |     |     |     |     |     |     |     | Diff<br>fret<br>na |
|------------|----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|
| Deviations |    |     |     |     |     |     |     |     |     | Late<br>ratio      | Deviations |     |     |     |     |     |     |     |     |     | Late<br>ratio      | Deviations |     |     |     |     |     |     |     |     |     | Late<br>ratio      |
| 1          | 2  | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11                 | 12         | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22                 | 23         | 24  | 25  | 26  | 27  | 28  | 29  | 30  | 31  | 32  | 33                 |
| 1          | 0  | 21  | 30  | 38  | 45  | 51  | 57  | 62  | 67  | 71                 | 75         | 79  | 83  | 87  | 90  | 94  | 97  | 100 | 103 | 106 | 109                | 112        | 115 | 118 | 121 | 124 | 127 | 130 | 133 | 136 | 139 | 142                |
| 2          | 0  | 43  | 51  | 58  | 65  | 71  | 77  | 82  | 87  | 91                 | 95         | 99  | 103 | 107 | 110 | 114 | 117 | 120 | 123 | 126 | 129                | 132        | 135 | 138 | 141 | 144 | 147 | 150 | 153 | 156 | 159 | 162                |
| 3          | 1  | 4   | 10  | 16  | 22  | 28  | 34  | 39  | 44  | 49                 | 54         | 59  | 64  | 68  | 72  | 76  | 80  | 84  | 88  | 92  | 96                 | 100        | 104 | 108 | 112 | 116 | 120 | 124 | 128 | 132 | 136 | 140                |
| 4          | 1  | 8   | 14  | 20  | 26  | 32  | 38  | 43  | 48  | 53                 | 58         | 63  | 68  | 72  | 76  | 80  | 84  | 88  | 92  | 96  | 100                | 104        | 108 | 112 | 116 | 120 | 124 | 128 | 132 | 136 | 140 | 144                |
| 5          | 1  | 12  | 18  | 24  | 30  | 36  | 42  | 47  | 52  | 57                 | 62         | 67  | 72  | 76  | 80  | 84  | 88  | 92  | 96  | 100 | 104                | 108        | 112 | 116 | 120 | 124 | 128 | 132 | 136 | 140 | 144 | 148                |
| 6          | 2  | 16  | 22  | 28  | 34  | 40  | 46  | 51  | 56  | 61                 | 66         | 71  | 76  | 80  | 84  | 88  | 92  | 96  | 100 | 104 | 108                | 112        | 116 | 120 | 124 | 128 | 132 | 136 | 140 | 144 | 148 | 152                |
| 7          | 2  | 20  | 26  | 32  | 38  | 44  | 50  | 55  | 60  | 65                 | 70         | 75  | 80  | 84  | 88  | 92  | 96  | 100 | 104 | 108 | 112                | 116        | 120 | 124 | 128 | 132 | 136 | 140 | 144 | 148 | 152 | 156                |
| 8          | 2  | 24  | 30  | 36  | 42  | 48  | 54  | 59  | 64  | 69                 | 74         | 79  | 84  | 88  | 92  | 96  | 100 | 104 | 108 | 112 | 116                | 120        | 124 | 128 | 132 | 136 | 140 | 144 | 148 | 152 | 156 | 160                |
| 9          | 3  | 28  | 34  | 40  | 46  | 52  | 58  | 63  | 68  | 73                 | 78         | 83  | 88  | 92  | 96  | 100 | 104 | 108 | 112 | 116 | 120                | 124        | 128 | 132 | 136 | 140 | 144 | 148 | 152 | 156 | 160 | 164                |
| 10         | 3  | 32  | 38  | 44  | 50  | 56  | 62  | 67  | 72  | 77                 | 82         | 87  | 92  | 96  | 100 | 104 | 108 | 112 | 116 | 120 | 124                | 128        | 132 | 136 | 140 | 144 | 148 | 152 | 156 | 160 | 164 | 168                |
| 11         | 4  | 36  | 42  | 48  | 54  | 60  | 66  | 71  | 76  | 81                 | 86         | 91  | 96  | 100 | 104 | 108 | 112 | 116 | 120 | 124 | 128                | 132        | 136 | 140 | 144 | 148 | 152 | 156 | 160 | 164 | 168 | 172                |
| 12         | 4  | 40  | 46  | 52  | 58  | 64  | 70  | 75  | 80  | 85                 | 90         | 95  | 100 | 104 | 108 | 112 | 116 | 120 | 124 | 128 | 132                | 136        | 140 | 144 | 148 | 152 | 156 | 160 | 164 | 168 | 172 | 176                |
| 13         | 4  | 44  | 50  | 56  | 62  | 68  | 74  | 79  | 84  | 89                 | 94         | 99  | 104 | 108 | 112 | 116 | 120 | 124 | 128 | 132 | 136                | 140        | 144 | 148 | 152 | 156 | 160 | 164 | 168 | 172 | 176 | 180                |
| 14         | 4  | 48  | 54  | 60  | 66  | 72  | 78  | 83  | 88  | 93                 | 98         | 103 | 108 | 112 | 116 | 120 | 124 | 128 | 132 | 136 | 140                | 144        | 148 | 152 | 156 | 160 | 164 | 168 | 172 | 176 | 180 | 184                |
| 15         | 5  | 52  | 58  | 64  | 70  | 76  | 82  | 87  | 92  | 97                 | 102        | 107 | 112 | 116 | 120 | 124 | 128 | 132 | 136 | 140 | 144                | 148        | 152 | 156 | 160 | 164 | 168 | 172 | 176 | 180 | 184 | 188                |
| 16         | 5  | 56  | 62  | 68  | 74  | 80  | 86  | 91  | 96  | 101                | 106        | 111 | 116 | 120 | 124 | 128 | 132 | 136 | 140 | 144 | 148                | 152        | 156 | 160 | 164 | 168 | 172 | 176 | 180 | 184 | 188 | 192                |
| 17         | 6  | 60  | 66  | 72  | 78  | 84  | 90  | 95  | 100 | 105                | 110        | 115 | 120 | 124 | 128 | 132 | 136 | 140 | 144 | 148 | 152                | 156        | 160 | 164 | 168 | 172 | 176 | 180 | 184 | 188 | 192 | 196                |
| 18         | 6  | 64  | 70  | 76  | 82  | 88  | 94  | 99  | 104 | 109                | 114        | 119 | 124 | 128 | 132 | 136 | 140 | 144 | 148 | 152 | 156                | 160        | 164 | 168 | 172 | 176 | 180 | 184 | 188 | 192 | 196 | 200                |
| 19         | 6  | 68  | 74  | 80  | 86  | 92  | 98  | 103 | 108 | 113                | 118        | 123 | 128 | 132 | 136 | 140 | 144 | 148 | 152 | 156 | 160                | 164        | 168 | 172 | 176 | 180 | 184 | 188 | 192 | 196 | 200 | 204                |
| 20         | 7  | 72  | 78  | 84  | 90  | 96  | 102 | 107 | 112 | 117                | 122        | 127 | 132 | 136 | 140 | 144 | 148 | 152 | 156 | 160 | 164                | 168        | 172 | 176 | 180 | 184 | 188 | 192 | 196 | 200 | 204 | 208                |
| 21         | 7  | 76  | 82  | 88  | 94  | 100 | 106 | 111 | 116 | 121                | 126        | 131 | 136 | 140 | 144 | 148 | 152 | 156 | 160 | 164 | 168                | 172        | 176 | 180 | 184 | 188 | 192 | 196 | 200 | 204 | 208 | 212                |
| 22         | 7  | 80  | 86  | 92  | 98  | 104 | 110 | 115 | 120 | 125                | 130        | 135 | 140 | 144 | 148 | 152 | 156 | 160 | 164 | 168 | 172                | 176        | 180 | 184 | 188 | 192 | 196 | 200 | 204 | 208 | 212 | 216                |
| 23         | 8  | 84  | 90  | 96  | 102 | 108 | 114 | 119 | 124 | 129                | 134        | 139 | 144 | 148 | 152 | 156 | 160 | 164 | 168 | 172 | 176                | 180        | 184 | 188 | 192 | 196 | 200 | 204 | 208 | 212 | 216 | 220                |
| 24         | 8  | 88  | 94  | 100 | 106 | 112 | 118 | 123 | 128 | 133                | 138        | 143 | 148 | 152 | 156 | 160 | 164 | 168 | 172 | 176 | 180                | 184        | 188 | 192 | 196 | 200 | 204 | 208 | 212 | 216 | 220 | 224                |
| 25         | 8  | 92  | 98  | 104 | 110 | 116 | 122 | 127 | 132 | 137                | 142        | 147 | 152 | 156 | 160 | 164 | 168 | 172 | 176 | 180 | 184                | 188        | 192 | 196 | 200 | 204 | 208 | 212 | 216 | 220 | 224 | 228                |
| 26         | 9  | 96  | 102 | 108 | 114 | 120 | 126 | 131 | 136 | 141                | 146        | 151 | 156 | 160 | 164 | 168 | 172 | 176 | 180 | 184 | 188                | 192        | 196 | 200 | 204 | 208 | 212 | 216 | 220 | 224 | 228 | 232                |
| 27         | 9  | 100 | 106 | 112 | 118 | 124 | 130 | 135 | 140 | 145                | 150        | 155 | 160 | 164 | 168 | 172 | 176 | 180 | 184 | 188 | 192                | 196        | 200 | 204 | 208 | 212 | 216 | 220 | 224 | 228 | 232 | 236                |
| 28         | 9  | 104 | 110 | 116 | 122 | 128 | 134 | 139 | 144 | 149                | 154        | 159 | 164 | 168 | 172 | 176 | 180 | 184 | 188 | 192 | 196                | 200        | 204 | 208 | 212 | 216 | 220 | 224 | 228 | 232 | 236 | 240                |
| 29         | 10 | 108 | 114 | 120 | 126 | 132 | 138 | 143 | 148 | 153                | 158        | 163 | 168 | 172 | 176 | 180 | 184 | 188 | 192 | 196 | 200                | 204        | 208 | 212 | 216 | 220 | 224 | 228 | 232 | 236 | 240 | 244                |
| 30         | 10 | 112 | 118 | 124 | 130 | 136 | 142 | 147 | 152 | 157                | 162        | 167 | 172 | 176 | 180 | 184 | 188 | 192 | 196 | 200 | 204                | 208        | 212 | 216 | 220 | 224 | 228 | 232 | 236 | 240 | 244 | 248                |



| Defectives. | ARCUS   |    |    |   |       | Defectives. | ARCUS   |    |    |   |       | Defectives. | ARCUS   |    |    |   |       | Defectives. | ARCUS   |   |    |   |    |
|-------------|---------|----|----|---|-------|-------------|---------|----|----|---|-------|-------------|---------|----|----|---|-------|-------------|---------|---|----|---|----|
|             | Arcules |    |    |   |       |             | Arcules |    |    |   |       |             | Arcules |    |    |   |       |             | Arcules |   |    |   |    |
|             | g       | m  | fa | m | fa    |             | g       | m  | fa | m | fa    |             | g       | m  | fa | m | fa    |             | g       | m | fa | m | fa |
| 1           | 0       | 22 | 29 |   | 0 58  | 31          | 11      | 7  | 27 |   | 29 7  | 61          | 19      | 7  | 32 |   | 51 28 |             |         |   |    |   |    |
| 2           | 0       | 44 | 57 |   | 1 56  | 32          | 11      | 26 | 29 |   | 30 0  | 62          | 19      | 18 | 54 |   | 52 0  |             |         |   |    |   |    |
| 3           | 1       | 7  | 24 |   | 2 54  | 33          | 11      | 46 | 20 |   | 30 51 | 63          | 19      | 20 | 54 |   | 52 12 |             |         |   |    |   |    |
| 4           | 1       | 29 | 51 |   | 3 52  | 34          | 12      | 5  | 31 |   | 31 43 | 64          | 19      | 40 | 33 |   | 53 4  |             |         |   |    |   |    |
| 5           | 1       | 52 | 16 |   | 4 50  | 35          | 12      | 24 | 28 |   | 32 35 | 65          | 19      | 50 | 49 |   | 51 34 |             |         |   |    |   |    |
| 6           | 2       | 14 | 39 |   | 5 48  | 36          | 12      | 41 | 12 |   | 33 27 | 66          | 20      | 0  | 45 |   | 54 2  |             |         |   |    |   |    |
| 7           | 2       | 17 | 9  |   | 6 46  | 37          | 13      | 1  | 45 |   | 34 16 | 67          | 20      | 10 | 17 |   | 54 31 |             |         |   |    |   |    |
| 8           | 2       | 50 | 19 |   | 7 44  | 38          | 13      | 20 | 3  |   | 35 7  | 68          | 20      | 19 | 27 |   | 54 58 |             |         |   |    |   |    |
| 9           | 3       | 21 | 34 |   | 8 42  | 39          | 13      | 33 | 9  |   | 35 56 | 69          | 20      | 28 | 14 |   | 55 24 |             |         |   |    |   |    |
| 10          | 3       | 41 | 47 |   | 9 39  | 40          | 13      | 56 | 0  |   | 36 46 | 70          | 20      | 36 | 38 |   | 55 50 |             |         |   |    |   |    |
| 11          | 4       | 5  | 56 |   | 10 36 | 41          | 14      | 13 | 37 |   | 37 14 | 71          | 20      | 44 | 40 |   | 56 11 |             |         |   |    |   |    |
| 12          | 4       | 28 | 1  |   | 11 34 | 42          | 14      | 31 | 0  |   | 38 22 | 72          | 20      | 52 | 17 |   | 56 36 |             |         |   |    |   |    |
| 13          | 4       | 50 | 2  |   | 12 31 | 43          | 14      | 48 | 8  |   | 39 9  | 73          | 20      | 59 | 41 |   | 56 57 |             |         |   |    |   |    |
| 14          | 5       | 11 | 58 |   | 13 29 | 44          | 15      | 5  | 0  |   | 40 57 | 74          | 21      | 6  | 22 |   | 57 18 |             |         |   |    |   |    |
| 15          | 5       | 31 | 50 |   | 14 25 | 45          | 15      | 21 | 37 |   | 40 43 | 75          | 21      | 12 | 48 |   | 57 38 |             |         |   |    |   |    |
| 16          | 5       | 55 | 16 |   | 15 22 | 46          | 15      | 37 | 58 |   | 41 28 | 76          | 21      | 18 | 51 |   | 57 55 |             |         |   |    |   |    |
| 17          | 6       | 17 | 16 |   | 16 19 | 47          | 15      | 54 | 2  |   | 42 14 | 77          | 21      | 24 | 29 |   | 58 12 |             |         |   |    |   |    |
| 18          | 6       | 38 | 51 |   | 17 15 | 48          | 16      | 9  | 50 |   | 42 58 | 78          | 21      | 29 | 42 |   | 58 28 |             |         |   |    |   |    |
| 19          | 7       | 0  | 19 |   | 18 11 | 49          | 16      | 25 | 21 |   | 43 42 | 79          | 21      | 34 | 31 |   | 58 43 |             |         |   |    |   |    |
| 20          | 7       | 21 | 40 |   | 19 7  | 50          | 16      | 40 | 35 |   | 44 24 | 80          | 21      | 38 | 56 |   | 58 55 |             |         |   |    |   |    |
| 21          | 7       | 42 | 54 |   | 20 3  | 51          | 16      | 55 | 31 |   | 45 6  | 81          | 21      | 42 | 55 |   | 59 8  |             |         |   |    |   |    |
| 22          | 8       | 4  | 1  |   | 20 59 | 52          | 17      | 19 | 9  |   | 45 42 | 82          | 21      | 46 | 30 |   | 59 18 |             |         |   |    |   |    |
| 23          | 8       | 25 | 0  |   | 21 54 | 53          | 17      | 24 | 29 |   | 46 31 | 83          | 21      | 49 | 39 |   | 59 29 |             |         |   |    |   |    |
| 24          | 8       | 45 | 50 |   | 22 50 | 54          | 17      | 38 | 30 |   | 47 10 | 84          | 21      | 52 | 24 |   | 59 37 |             |         |   |    |   |    |
| 25          | 9       | 6  | 33 |   | 23 44 | 55          | 17      | 52 | 12 |   | 47 49 | 85          | 21      | 54 | 43 |   | 59 44 |             |         |   |    |   |    |
| 26          | 9       | 27 | 6  |   | 24 39 | 56          | 18      | 5  | 35 |   | 48 28 | 86          | 21      | 56 | 37 |   | 59 50 |             |         |   |    |   |    |
| 27          | 9       | 47 | 30 |   | 25 34 | 57          | 18      | 18 | 40 |   | 49 5  | 87          | 21      | 58 | 6  |   | 59 54 |             |         |   |    |   |    |
| 28          | 10      | 7  | 44 |   | 26 28 | 58          | 18      | 31 | 23 |   | 49 43 | 88          | 21      | 59 | 9  |   | 59 58 |             |         |   |    |   |    |
| 29          | 10      | 27 | 49 |   | 27 21 | 59          | 18      | 43 | 45 |   | 50 19 | 89          | 21      | 59 | 49 |   | 59 57 |             |         |   |    |   |    |
| 30          | 10      | 47 | 43 |   | 28 14 | 60          | 18      | 55 | 48 |   | 50 54 | 90          | 22      | 0  | 0  |   | 60 0  |             |         |   |    |   |    |

| ARCTICUS  |    |    |    |       | ARCTICUS  |    |    |    |       | ARCTICUS  |    |    |    |       |
|-----------|----|----|----|-------|-----------|----|----|----|-------|-----------|----|----|----|-------|
| Differenz |    |    |    |       | Differenz |    |    |    |       | Differenz |    |    |    |       |
| Arctico   |    |    |    |       | Arctico   |    |    |    |       | Arctico   |    |    |    |       |
| Differenz |    |    |    |       | Differenz |    |    |    |       | Differenz |    |    |    |       |
| g         | m  | fa | m  | fa    | g         | m  | fa | m  | fa    | g         | m  | fa | m  | fa    |
| 1         | 0  | 23 | 27 | 0 57  | 11        | 11 | 16 | 14 | 18 58 | 61        | 19 | 59 | 9  | 51 20 |
| 2         | 0  | 46 | 51 | 1 55  | 12        | 11 | 26 | 29 | 29 51 | 62        | 20 | 10 | 24 | 51 54 |
| 3         | 1  | 10 | 18 | 2 51  | 13        | 12 | 17 | 13 | 30 43 | 63        | 20 | 22 | 26 | 52 27 |
| 4         | 1  | 33 | 41 | 3 50  | 14        | 12 | 27 | 14 | 31 34 | 64        | 20 | 33 | 27 | 52 57 |
| 5         | 1  | 57 | 6  | 4 48  | 15        | 12 | 37 | 1  | 32 25 | 65        | 20 | 44 | 21 | 53 29 |
| 6         | 2  | 20 | 27 | 5 45  | 16        | 13 | 16 | 39 | 33 16 | 66        | 20 | 54 | 47 | 53 58 |
| 7         | 2  | 43 | 46 | 6 43  | 17        | 13 | 26 | 1  | 34 7  | 67        | 21 | 4  | 48 | 54 27 |
| 8         | 3  | 7  | 2  | 7 40  | 18        | 13 | 55 | 10 | 34 57 | 68        | 21 | 14 | 25 | 54 54 |
| 9         | 3  | 30 | 16 | 8 37  | 19        | 14 | 14 | 5  | 35 47 | 69        | 21 | 23 | 18 | 55 21 |
| 10        | 3  | 53 | 26 | 9 34  | 20        | 14 | 32 | 46 | 36 35 | 70        | 21 | 32 | 28 | 55 46 |
| 11        | 4  | 16 | 32 | 10 32 | 21        | 14 | 51 | 11 | 37 25 | 71        | 21 | 40 | 31 | 56 16 |
| 12        | 4  | 39 | 35 | 11 29 | 22        | 15 | 9  | 22 | 38 12 | 72        | 21 | 48 | 33 | 56 43 |
| 13        | 5  | 2  | 33 | 12 26 | 23        | 15 | 27 | 17 | 39 0  | 73        | 21 | 56 | 28 | 57 11 |
| 14        | 5  | 25 | 27 | 13 22 | 24        | 15 | 44 | 52 | 39 46 | 74        | 22 | 3  | 40 | 57 39 |
| 15        | 5  | 48 | 15 | 14 19 | 25        | 16 | 2  | 20 | 40 33 | 75        | 22 | 10 | 26 | 58 5  |
| 16        | 6  | 10 | 58 | 15 16 | 26        | 16 | 19 | 26 | 41 19 | 76        | 22 | 16 | 46 | 58 34 |
| 17        | 6  | 33 | 45 | 16 12 | 27        | 16 | 36 | 16 | 42 4  | 77        | 22 | 22 | 41 | 58 11 |
| 18        | 6  | 56 | 6  | 17 8  | 28        | 16 | 52 | 48 | 42 49 | 78        | 22 | 28 | 10 | 58 27 |
| 19        | 7  | 18 | 30 | 18 4  | 29        | 17 | 9  | 1  | 43 32 | 79        | 22 | 33 | 14 | 58 41 |
| 20        | 7  | 40 | 47 | 19 0  | 30        | 17 | 24 | 59 | 44 17 | 80        | 22 | 37 | 51 | 58 55 |
| 21        | 8  | 2  | 57 | 19 56 | 31        | 17 | 40 | 17 | 44 59 | 81        | 22 | 42 | 3  | 59 8  |
| 22        | 8  | 25 | 0  | 20 50 | 32        | 17 | 55 | 58 | 45 40 | 82        | 22 | 45 | 18 | 59 19 |
| 23        | 8  | 46 | 54 | 21 46 | 33        | 18 | 11 | 0  | 46 20 | 83        | 22 | 49 | 8  | 59 28 |
| 24        | 9  | 8  | 40 | 22 41 | 34        | 18 | 25 | 40 | 47 2  | 84        | 22 | 52 | 1  | 59 36 |
| 25        | 9  | 30 | 17 | 23 35 | 35        | 18 | 40 | 1  | 47 42 | 85        | 22 | 54 | 27 | 59 44 |
| 26        | 9  | 51 | 45 | 24 30 | 36        | 18 | 54 | 9  | 48 20 | 86        | 22 | 56 | 27 | 59 49 |
| 27        | 10 | 13 | 4  | 25 23 | 37        | 19 | 7  | 45 | 48 58 | 87        | 22 | 58 | 0  | 59 54 |
| 28        | 10 | 34 | 12 | 26 18 | 38        | 19 | 21 | 5  | 49 15 | 88        | 22 | 59 | 7  | 59 57 |
| 29        | 10 | 55 | 10 | 27 13 | 39        | 19 | 34 | 4  | 50 12 | 89        | 22 | 59 | 46 | 59 59 |
| 30        | 11 | 15 | 57 | 28 5  | 40        | 19 | 46 | 41 | 50 47 | 90        | 23 | 0  | 0  | 60 0  |

| ARBUS     |            |    |    |       | ARBUS     |            |    |    |       | ARBUS     |            |    |    |       |
|-----------|------------|----|----|-------|-----------|------------|----|----|-------|-----------|------------|----|----|-------|
| Arcales   |            |    |    |       | Arcales   |            |    |    |       | Arcales   |            |    |    |       |
| Defectus. | Rate ratio |    |    |       | Defectus. | Rate ratio |    |    |       | Defectus. | Rate ratio |    |    |       |
| g         | g          | m  | fa | m fa  | g         | g          | m  | fa | m fa  | g         | g          | m  | fa | m fa  |
| 1         | 0          | 24 | 24 | 0 57  | 31        | 12         | 5  | 32 | 28 47 | 61        | 20         | 50 | 20 | 51 14 |
| 2         | 0          | 48 | 48 | 1 54  | 32        | 12         | 26 | 50 | 29 39 | 62        | 21         | 2  | 48 | 51 48 |
| 3         | 1          | 13 | 11 | 2 51  | 33        | 12         | 47 | 56 | 30 31 | 63        | 21         | 14 | 51 | 52 21 |
| 4         | 1          | 37 | 33 | 3 49  | 34        | 13         | 8  | 40 | 31 21 | 64        | 21         | 26 | 34 | 52 51 |
| 5         | 2          | 1  | 54 | 4 45  | 35        | 13         | 29 | 28 | 32 15 | 65        | 21         | 37 | 52 | 53 24 |
| 6         | 2          | 26 | 12 | 5 41  | 36        | 13         | 49 | 55 | 33 5  | 66        | 21         | 48 | 45 | 53 54 |
| 7         | 2          | 50 | 28 | 6 40  | 37        | 14         | 10 | 8  | 33 56 | 67        | 21         | 50 | 15 | 54 22 |
| 8         | 3          | 14 | 42 | 7 37  | 38        | 14         | 30 | 7  | 34 46 | 68        | 22         | 9  | 19 | 54 51 |
| 9         | 3          | 38 | 53 | 8 34  | 39        | 14         | 49 | 52 | 35 35 | 69        | 22         | 18 | 59 | 55 17 |
| 10        | 4          | 3  | 0  | 9 31  | 40        | 15         | 9  | 21 | 36 25 | 70        | 22         | 28 | 14 | 55 42 |
| 11        | 4          | 27 | 4  | 10 27 | 41        | 15         | 28 | 36 | 37 13 | 71        | 22         | 37 | 3  | 56 7  |
| 12        | 4          | 51 | 4  | 11 23 | 42        | 15         | 47 | 34 | 38 2  | 72        | 22         | 45 | 26 | 56 30 |
| 13        | 5          | 14 | 52 | 12 20 | 43        | 16         | 6  | 17 | 38 49 | 73        | 22         | 53 | 23 | 56 54 |
| 14        | 5          | 38 | 49 | 13 17 | 44        | 16         | 24 | 43 | 39 37 | 74        | 23         | 0  | 35 | 57 14 |
| 15        | 6          | 2  | 34 | 14 13 | 45        | 16         | 42 | 53 | 40 21 | 75        | 23         | 8  | 1  | 57 33 |
| 16        | 6          | 26 | 14 | 15 8  | 46        | 17         | 0  | 45 | 41 9  | 76        | 23         | 14 | 40 | 57 51 |
| 17        | 6          | 49 | 47 | 16 4  | 47        | 17         | 18 | 20 | 41 54 | 77        | 23         | 20 | 52 | 58 10 |
| 18        | 7          | 13 | 14 | 17 0  | 48        | 17         | 35 | 37 | 42 39 | 78        | 23         | 26 | 37 | 58 26 |
| 19        | 7          | 36 | 34 | 17 56 | 49        | 17         | 52 | 35 | 43 24 | 79        | 23         | 31 | 55 | 58 41 |
| 20        | 7          | 59 | 47 | 18 52 | 50        | 18         | 9  | 16 | 44 6  | 80        | 23         | 36 | 46 | 58 56 |
| 21        | 8          | 22 | 53 | 19 47 | 51        | 18         | 25 | 36 | 44 50 | 81        | 23         | 41 | 11 | 59 7  |
| 22        | 8          | 45 | 50 | 20 41 | 52        | 18         | 41 | 38 | 45 32 | 82        | 23         | 45 | 7  | 59 18 |
| 23        | 9          | 8  | 40 | 21 37 | 53        | 18         | 57 | 20 | 46 13 | 83        | 23         | 48 | 36 | 59 28 |
| 24        | 9          | 31 | 21 | 22 31 | 54        | 19         | 12 | 42 | 46 53 | 84        | 23         | 51 | 37 | 59 37 |
| 25        | 9          | 53 | 52 | 23 27 | 55        | 19         | 27 | 43 | 47 33 | 85        | 23         | 54 | 11 | 59 44 |
| 26        | 10         | 16 | 15 | 24 20 | 56        | 19         | 42 | 23 | 48 12 | 86        | 23         | 56 | 16 | 59 50 |
| 27        | 10         | 38 | 27 | 25 14 | 57        | 19         | 56 | 43 | 48 50 | 87        | 23         | 57 | 54 | 59 55 |
| 28        | 11         | 0  | 30 | 26 7  | 58        | 20         | 10 | 40 | 49 27 | 88        | 23         | 59 | 4  | 59 57 |
| 29        | 11         | 22 | 23 | 27 1  | 59        | 20         | 24 | 16 | 50 3  | 89        | 23         | 59 | 45 | 60 1  |
| 30        | 11         | 44 | 2  | 27 56 | 60        | 20         | 37 | 29 | 50 39 | 90        | 24         | 0  | 0  | 60 0  |

| ARCTUS   |    |    |    |       | ARCTUS   |    |    |    |       | ARCTUS   |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| Defectus |    |    |    |       | Defectus |    |    |    |       | Defectus |    |    |    |       |
| g        | g  | m  | fa | m fa  | g        | g  | m  | fa | m fa  | g        | g  | m  | fa | m fa  |
| 1        | 0  | 25 | 21 | 0 57  | 31       | 12 | 14 | 19 | 28 37 | 61       | 21 | 13 | 2  | 51 8  |
| 2        | 0  | 50 | 42 | 1 54  | 32       | 12 | 56 | 20 | 29 29 | 62       | 21 | 54 | 36 | 51 42 |
| 3        | 1  | 16 | 3  | 2 50  | 33       | 13 | 18 | 27 | 30 20 | 63       | 22 | 7  | 14 | 52 15 |
| 4        | 1  | 41 | 22 | 3 46  | 34       | 13 | 40 | 11 | 31 12 | 64       | 22 | 19 | 27 | 52 47 |
| 5        | 2  | 6  | 19 | 4 44  | 35       | 14 | 1  | 43 | 32 3  | 65       | 22 | 31 | 16 | 53 18 |
| 6        | 2  | 31 | 55 | 5 40  | 36       | 14 | 23 | 0  | 32 54 | 66       | 22 | 42 | 39 | 53 48 |
| 7        | 2  | 57 | 8  | 6 37  | 37       | 14 | 44 | 4  | 33 44 | 67       | 22 | 53 | 37 | 54 17 |
| 8        | 3  | 22 | 19 | 7 33  | 38       | 15 | 4  | 51 | 34 33 | 68       | 23 | 4  | 10 | 54 45 |
| 9        | 3  | 47 | 27 | 8 29  | 39       | 15 | 25 | 27 | 35 24 | 69       | 23 | 14 | 16 | 55 12 |
| 10       | 4  | 12 | 31 | 9 26  | 40       | 15 | 45 | 46 | 36 13 | 70       | 23 | 23 | 56 | 55 38 |
| 11       | 4  | 37 | 31 | 10 22 | 41       | 16 | 5  | 49 | 37 2  | 71       | 23 | 33 | 10 | 56 4  |
| 12       | 5  | 2  | 27 | 11 19 | 42       | 16 | 25 | 36 | 37 50 | 72       | 23 | 41 | 56 | 56 28 |
| 13       | 5  | 27 | 19 | 12 14 | 43       | 16 | 45 | 6  | 38 38 | 73       | 23 | 50 | 17 | 56 50 |
| 14       | 5  | 52 | 6  | 13 10 | 44       | 17 | 4  | 20 | 39 26 | 74       | 23 | 58 | 7  | 57 12 |
| 15       | 6  | 16 | 47 | 14 6  | 45       | 17 | 23 | 16 | 40 12 | 75       | 24 | 5  | 34 | 57 32 |
| 16       | 6  | 41 | 22 | 15 2  | 46       | 17 | 41 | 54 | 40 58 | 76       | 24 | 12 | 31 | 57 41 |
| 17       | 7  | 5  | 51 | 15 58 | 47       | 18 | 0  | 14 | 41 41 | 77       | 24 | 19 | 2  | 58 7  |
| 18       | 7  | 30 | 14 | 16 54 | 48       | 18 | 18 | 16 | 42 29 | 78       | 24 | 25 | 3  | 58 25 |
| 19       | 7  | 54 | 30 | 17 49 | 49       | 18 | 15 | 59 | 43 11 | 79       | 24 | 30 | 5  | 58 40 |
| 20       | 8  | 18 | 39 | 18 43 | 50       | 18 | 53 | 22 | 43 58 | 80       | 24 | 35 | 42 | 58 53 |
| 21       | 8  | 42 | 40 | 19 38 | 51       | 19 | 10 | 26 | 44 40 | 81       | 24 | 40 | 18 | 59 4  |
| 22       | 9  | 6  | 33 | 20 33 | 52       | 19 | 27 | 10 | 45 22 | 82       | 24 | 44 | 23 | 59 17 |
| 23       | 9  | 30 | 17 | 21 28 | 53       | 19 | 43 | 31 | 46 3  | 83       | 24 | 48 | 4  | 59 27 |
| 24       | 9  | 53 | 52 | 22 23 | 54       | 19 | 59 | 35 | 46 44 | 84       | 24 | 51 | 14 | 59 36 |
| 25       | 10 | 17 | 19 | 23 16 | 55       | 20 | 15 | 16 | 47 24 | 85       | 24 | 53 | 25 | 59 43 |
| 26       | 10 | 40 | 15 | 24 12 | 56       | 20 | 30 | 15 | 48 4  | 86       | 24 | 56 | 6  | 59 49 |
| 27       | 11 | 3  | 41 | 25 6  | 57       | 20 | 45 | 11 | 48 42 | 87       | 24 | 57 | 49 | 59 53 |
| 28       | 11 | 26 | 37 | 25 59 | 58       | 21 | 0  | 7  | 49 20 | 88       | 24 | 59 | 0  | 59 58 |
| 29       | 11 | 49 | 24 | 26 50 | 59       | 21 | 14 | 19 | 49 57 | 89       | 24 | 59 | 46 | 59 59 |
| 30       | 12 | 11 | 58 | 27 43 | 60       | 21 | 28 | 8  | 50 33 | 90       | 25 | 0  | 0  | 60 0  |

| ARCUS     |    |    |    |       | ARCUS     |    |    |    |       | ARCUS     |    |    |    |       |
|-----------|----|----|----|-------|-----------|----|----|----|-------|-----------|----|----|----|-------|
| Defectio. |    |    |    |       | Defectio. |    |    |    |       | Defectio. |    |    |    |       |
| Arcus     |    |    |    |       | Arcus     |    |    |    |       | Arcus     |    |    |    |       |
| g         | m  | fa | mi | se    | g         | m  | fa | mi | se    | g         | m  | fa | mi | se    |
| 1         | 0  | 26 | 18 | 0 56  | 31        | 13 | 2  | 56 | 28 24 | 61        | 22 | 12 | 42 | 51 0  |
| 2         | 0  | 52 | 16 | 1 52  | 32        | 13 | 25 | 58 | 29 17 | 62        | 22 | 46 | 18 | 51 16 |
| 3         | 1  | 18 | 51 | 2 48  | 33        | 13 | 48 | 47 | 30 9  | 63        | 22 | 50 | 29 | 52 8  |
| 4         | 1  | 45 | 8  | 3 45  | 34        | 14 | 11 | 23 | 31 1  | 64        | 23 | 12 | 14 | 52 40 |
| 5         | 2  | 11 | 21 | 4 41  | 35        | 14 | 33 | 46 | 31 51 | 65        | 23 | 24 | 34 | 53 12 |
| 6         | 2  | 37 | 15 | 5 37  | 36        | 14 | 55 | 54 | 32 43 | 66        | 23 | 36 | 27 | 53 44 |
| 7         | 3  | 1  | 45 | 6 33  | 37        | 15 | 17 | 46 | 33 33 | 67        | 23 | 47 | 54 | 54 14 |
| 8         | 3  | 26 | 7  | 7 29  | 38        | 15 | 39 | 26 | 34 24 | 68        | 23 | 58 | 55 | 54 42 |
| 9         | 3  | 55 | 56 | 8 25  | 39        | 16 | 0  | 51 | 35 13 | 69        | 24 | 9  | 28 | 55 10 |
| 10        | 4  | 21 | 57 | 9 21  | 40        | 16 | 21 | 59 | 36 2  | 70        | 24 | 19 | 34 | 55 36 |
| 11        | 4  | 47 | 53 | 10 17 | 41        | 16 | 42 | 51 | 36 50 | 71        | 24 | 29 | 14 | 56 0  |
| 12        | 5  | 13 | 46 | 11 12 | 42        | 17 | 3  | 26 | 37 39 | 72        | 24 | 38 | 24 | 56 24 |
| 13        | 5  | 39 | 33 | 12 9  | 43        | 17 | 23 | 44 | 38 27 | 73        | 24 | 47 | 7  | 56 47 |
| 14        | 6  | 5  | 16 | 13 4  | 44        | 17 | 41 | 46 | 39 14 | 74        | 24 | 55 | 21 | 57 8  |
| 15        | 6  | 30 | 53 | 13 50 | 45        | 18 | 1  | 28 | 40 0  | 75        | 25 | 3  | 6  | 57 29 |
| 16        | 6  | 56 | 24 | 14 55 | 46        | 18 | 22 | 52 | 40 48 | 76        | 25 | 10 | 22 | 57 48 |
| 17        | 7  | 21 | 49 | 15 50 | 47        | 18 | 41 | 57 | 41 34 | 77        | 25 | 17 | 9  | 58 6  |
| 18        | 7  | 47 | 8  | 16 44 | 48        | 19 | 0  | 45 | 42 17 | 78        | 25 | 23 | 28 | 58 22 |
| 19        | 8  | 12 | 19 | 17 40 | 49        | 19 | 19 | 12 | 43 2  | 79        | 25 | 29 | 16 | 58 38 |
| 20        | 8  | 37 | 22 | 18 35 | 50        | 19 | 37 | 20 | 43 45 | 80        | 25 | 34 | 35 | 58 54 |
| 21        | 9  | 2  | 18 | 19 30 | 51        | 19 | 55 | 6  | 44 29 | 81        | 25 | 39 | 21 | 59 5  |
| 22        | 9  | 27 | 6  | 20 24 | 52        | 20 | 12 | 12 | 45 12 | 82        | 25 | 43 | 42 | 59 16 |
| 23        | 9  | 51 | 45 | 21 19 | 53        | 20 | 29 | 36 | 45 54 | 83        | 25 | 47 | 31 | 59 26 |
| 24        | 10 | 16 | 15 | 22 12 | 54        | 20 | 46 | 19 | 46 35 | 84        | 25 | 50 | 50 | 59 35 |
| 25        | 10 | 40 | 31 | 23 6  | 55        | 21 | 2  | 40 | 47 15 | 85        | 25 | 53 | 38 | 59 42 |
| 26        | 11 | 4  | 47 | 24 0  | 56        | 21 | 18 | 39 | 47 55 | 86        | 25 | 55 | 55 | 59 49 |
| 27        | 11 | 28 | 47 | 24 53 | 57        | 21 | 34 | 15 | 48 33 | 87        | 25 | 57 | 42 | 59 54 |
| 28        | 11 | 52 | 16 | 25 47 | 58        | 21 | 49 | 27 | 49 12 | 88        | 25 | 58 | 59 | 59 57 |
| 29        | 12 | 16 | 14 | 26 40 | 59        | 22 | 4  | 16 | 49 50 | 89        | 25 | 59 | 45 | 59 59 |
| 30        | 12 | 39 | 41 | 27 32 | 60        | 22 | 18 | 41 | 50 25 | 90        | 26 | 0  | 0  | 60 0  |

| ARCUS    |    |    |      | ARCUS    |    |    |      | ARCUS    |    |    |      |
|----------|----|----|------|----------|----|----|------|----------|----|----|------|
| Defectus |    |    |      | Defectus |    |    |      | Defectus |    |    |      |
| g        | m  | Pa | Rate | g        | m  | Pa | Rate | g        | m  | Pa | Rate |
| 1        | 0  | 27 | 14   | 31       | 13 | 41 | 28   | 61       | 23 | 23 | 42   |
|          |    | 27 | 14   |          |    | 22 | 28   |          |    | 14 | 40   |
| 2        | 0  | 54 | 28   | 32       | 13 | 55 | 15   | 62       | 23 | 37 | 54   |
|          |    | 27 | 13   |          |    | 23 | 41   |          |    | 13 | 45   |
| 3        | 1  | 21 | 41   | 33       | 14 | 18 | 56   | 63       | 23 | 51 | 37   |
|          |    | 27 | 12   |          |    | 23 | 28   |          |    | 13 | 17   |
| 4        | 1  | 48 | 54   | 34       | 14 | 42 | 24   | 64       | 24 | 4  | 54   |
|          |    | 27 | 11   |          |    | 23 | 13   |          |    | 12 | 52   |
| 5        | 2  | 16 | 4    | 35       | 15 | 5  | 17   | 65       | 24 | 17 | 46   |
|          |    | 27 | 8    |          |    | 23 | 0    |          |    | 12 | 51   |
| 6        | 2  | 43 | 12   | 36       | 15 | 28 | 17   | 66       | 24 | 30 | 11   |
|          |    | 27 | 6    |          |    | 22 | 44   |          |    | 11 | 57   |
| 7        | 3  | 10 | 18   | 37       | 15 | 51 | 21   | 67       | 24 | 42 | 8    |
|          |    | 27 | 3    |          |    | 22 | 29   |          |    | 11 | 29   |
| 8        | 3  | 37 | 21   | 38       | 16 | 43 | 50   | 68       | 24 | 53 | 17   |
|          |    | 27 | 0    |          |    | 22 | 14   |          |    | 11 | 1    |
| 9        | 4  | 4  | 21   | 39       | 16 | 35 | 4    | 69       | 25 | 4  | 38   |
|          |    | 26 | 57   |          |    | 21 | 57   |          |    | 10 | 32   |
| 10       | 4  | 31 | 18   | 40       | 16 | 58 | 1    | 70       | 25 | 15 | 10   |
|          |    | 26 | 52   |          |    | 21 | 40   |          |    | 10 | 4    |
| 11       | 4  | 58 | 10   | 41       | 17 | 19 | 41   | 71       | 25 | 25 | 14   |
|          |    | 26 | 48   |          |    | 21 | 24   |          |    | 9  | 34   |
| 12       | 5  | 24 | 58   | 42       | 17 | 41 | 5    | 72       | 25 | 34 | 48   |
|          |    | 26 | 44   |          |    | 21 | 6    |          |    | 9  | 6    |
| 13       | 5  | 51 | 42   | 43       | 18 | 2  | 11   | 73       | 25 | 43 | 54   |
|          |    | 26 | 38   |          |    | 20 | 49   |          |    | 8  | 15   |
| 14       | 6  | 18 | 30   | 44       | 18 | 23 | 0    | 74       | 25 | 54 | 29   |
|          |    | 26 | 32   |          |    | 20 | 28   |          |    | 8  | 6    |
| 15       | 6  | 44 | 52   | 45       | 18 | 43 | 28   | 75       | 26 | 0  | 35   |
|          |    | 26 | 27   |          |    | 20 | 12   |          |    | 7  | 35   |
| 16       | 7  | 11 | 19   | 46       | 19 | 4  | 40   | 76       | 26 | 8  | 10   |
|          |    | 26 | 20   |          |    | 19 | 51   |          |    | 7  | 5    |
| 17       | 7  | 37 | 39   | 47       | 19 | 23 | 41   | 77       | 26 | 15 | 15   |
|          |    | 26 | 13   |          |    | 19 | 31   |          |    | 6  | 25   |
| 18       | 8  | 3  | 52   | 48       | 19 | 43 | 2    | 78       | 26 | 31 | 50   |
|          |    | 26 | 7    |          |    | 19 | 12   |          |    | 6  | 4    |
| 19       | 8  | 29 | 50   | 49       | 20 | 2  | 14   | 79       | 26 | 27 | 54   |
|          |    | 25 | 58   |          |    | 18 | 51   |          |    | 5  | 42   |
| 20       | 8  | 55 | 57   | 50       | 20 | 21 | 5    | 80       | 26 | 43 | 14   |
|          |    | 25 | 51   |          |    | 18 | 30   |          |    | 5  | 2    |
| 21       | 9  | 21 | 48   | 51       | 20 | 49 | 35   | 81       | 26 | 48 | 28   |
|          |    | 25 | 42   |          |    | 18 | 9    |          |    | 4  | 30   |
| 22       | 9  | 47 | 30   | 52       | 20 | 57 | 44   | 82       | 26 | 42 | 58   |
|          |    | 25 | 34   |          |    | 17 | 45   |          |    | 3  | 59   |
| 23       | 10 | 13 | 4    | 53       | 21 | 15 | 30   | 83       | 26 | 46 | 57   |
|          |    | 25 | 23   |          |    | 17 | 24   |          |    | 1  | 28   |
| 24       | 10 | 39 | 27   | 54       | 21 | 31 | 54   | 84       | 26 | 50 | 25   |
|          |    | 25 | 14   |          |    | 17 | 1    |          |    | 2  | 55   |
| 25       | 11 | 3  | 41   | 55       | 21 | 49 | 55   | 85       | 26 | 54 | 20   |
|          |    | 25 | 6    |          |    | 16 | 39   |          |    | 2  | 24   |
| 26       | 11 | 28 | 47   | 56       | 22 | 6  | 34   | 86       | 26 | 55 | 44   |
|          |    | 24 | 51   |          |    | 16 | 14   |          |    | 1  | 52   |
| 27       | 11 | 54 | 40   | 57       | 22 | 22 | 48   | 87       | 26 | 57 | 36   |
|          |    | 24 | 43   |          |    | 15 | 51   |          |    | 1  | 20   |
| 28       | 12 | 18 | 21   | 58       | 22 | 18 | 39   | 88       | 26 | 58 | 56   |
|          |    | 24 | 11   |          |    | 15 | 26   |          |    | 0  | 48   |
| 29       | 12 | 42 | 54   | 59       | 22 | 54 | 5    | 89       | 26 | 59 | 44   |
|          |    | 24 | 19   |          |    | 15 | 1    |          |    | 0  | 16   |
| 30       | 13 | 7  | 11   | 60       | 23 | 9  | 6    | 90       | 27 | 0  | 0    |
|          |    | 24 | 7    |          |    | 14 | 36   |          |    | 0  | 0    |



| ARCUS    |    |    |    |       | ARCUS    |    |    |    |    | ARCUS    |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|----|----------|----|----|----|-------|
| Defectus |    |    |    |       | Defectus |    |    |    |    | Defectus |    |    |    |       |
| g        | m  | fa | mi | fa    | g        | m  | fa | mi | fa | g        | m  | fa | mi | fa    |
| 1        | 0  | 28 | 10 | 0 55  | 31       | 13 | 24 | 28 | 0  | 61       | 24 | 14 | 35 | 50 45 |
| 2        | 0  | 56 | 20 | 1 50  | 32       | 14 | 24 | 28 | 53 | 62       | 24 | 29 | 20 | 51 21 |
| 3        | 1  | 24 | 20 | 2 45  | 33       | 14 | 24 | 29 | 44 | 63       | 24 | 41 | 19 | 51 55 |
| 4        | 1  | 51 | 26 | 3 41  | 34       | 15 | 11 | 29 | 36 | 64       | 24 | 57 | 30 | 52 18 |
| 5        | 2  | 20 | 42 | 4 36  | 35       | 15 | 37 | 31 | 26 | 65       | 25 | 10 | 55 | 53 0  |
| 6        | 2  | 48 | 46 | 5 31  | 36       | 16 | 1  | 32 | 17 | 66       | 25 | 23 | 49 | 53 31 |
| 7        | 3  | 16 | 48 | 6 26  | 37       | 16 | 24 | 33 | 7  | 67       | 25 | 36 | 15 | 54 2  |
| 8        | 3  | 44 | 47 | 7 21  | 38       | 16 | 48 | 33 | 57 | 68       | 25 | 48 | 13 | 54 31 |
| 9        | 4  | 12 | 42 | 8 16  | 39       | 17 | 11 | 34 | 47 | 69       | 25 | 59 | 42 | 54 58 |
| 10       | 4  | 40 | 34 | 9 11  | 40       | 17 | 31 | 35 | 37 | 70       | 26 | 10 | 40 | 55 26 |
| 11       | 5  | 8  | 22 | 10 6  | 41       | 17 | 56 | 36 | 24 | 71       | 26 | 21 | 9  | 55 52 |
| 12       | 5  | 36 | 5  | 11 1  | 42       | 18 | 21 | 37 | 14 | 72       | 26 | 31 | 8  | 56 17 |
| 13       | 6  | 1  | 44 | 11 56 | 43       | 18 | 40 | 38 | 3  | 73       | 26 | 40 | 37 | 56 40 |
| 14       | 6  | 31 | 17 | 12 51 | 44       | 19 | 21 | 39 | 50 | 74       | 26 | 49 | 34 | 57 2  |
| 15       | 6  | 58 | 45 | 13 45 | 45       | 19 | 21 | 40 | 37 | 75       | 26 | 58 | 1  | 57 23 |
| 16       | 7  | 26 | 7  | 14 39 | 46       | 19 | 44 | 40 | 23 | 76       | 27 | 5  | 56 | 57 42 |
| 17       | 7  | 53 | 21 | 15 34 | 47       | 20 | 4  | 41 | 8  | 77       | 27 | 13 | 19 | 58 2  |
| 18       | 8  | 20 | 29 | 16 29 | 48       | 20 | 25 | 41 | 54 | 78       | 27 | 20 | 11 | 58 19 |
| 19       | 8  | 47 | 30 | 17 23 | 49       | 20 | 45 | 42 | 40 | 79       | 27 | 26 | 30 | 58 25 |
| 20       | 9  | 14 | 33 | 18 17 | 50       | 21 | 4  | 43 | 24 | 80       | 27 | 32 | 17 | 58 50 |
| 21       | 9  | 41 | 9  | 19 10 | 51       | 21 | 21 | 44 | 7  | 81       | 27 | 37 | 11 | 59 2  |
| 22       | 10 | 7  | 44 | 20 5  | 52       | 21 | 42 | 44 | 50 | 82       | 27 | 42 | 14 | 59 14 |
| 23       | 10 | 34 | 12 | 20 58 | 53       | 22 | 1  | 45 | 31 | 83       | 27 | 46 | 23 | 59 25 |
| 24       | 11 | 0  | 30 | 21 51 | 54       | 22 | 19 | 46 | 14 | 84       | 27 | 49 | 50 | 59 35 |
| 25       | 11 | 26 | 37 | 22 47 | 55       | 22 | 37 | 46 | 55 | 85       | 27 | 51 | 3  | 59 40 |
| 26       | 11 | 52 | 36 | 23 38 | 56       | 22 | 54 | 47 | 36 | 86       | 27 | 55 | 11 | 59 48 |
| 27       | 12 | 18 | 23 | 24 31 | 57       | 23 | 11 | 48 | 15 | 87       | 27 | 57 | 29 | 59 54 |
| 28       | 12 | 43 | 50 | 25 23 | 58       | 23 | 27 | 48 | 54 | 88       | 27 | 58 | 53 | 59 56 |
| 29       | 13 | 9  | 22 | 26 17 | 59       | 23 | 43 | 49 | 32 | 89       | 27 | 59 | 43 | 59 59 |
| 30       | 13 | 34 | 34 | 27 9  | 60       | 23 | 59 | 50 | 10 | 90       | 28 | 0  | 0  | 60 0  |

| CIRCUS     |         |            |         |            | CIRCUS     |            |         |            |         | CIRCUS     |         |            |         |            |
|------------|---------|------------|---------|------------|------------|------------|---------|------------|---------|------------|---------|------------|---------|------------|
| Defectless |         |            |         |            | Defectless |            |         |            |         | Defectless |         |            |         |            |
| Arcales    |         |            |         |            | Arcales    |            |         |            |         | Arcales    |         |            |         |            |
| Defectless | Arcales | Defectless | Arcales | Defectless | Arcales    | Defectless | Arcales | Defectless | Arcales | Defectless | Arcales | Defectless | Arcales | Defectless |
| 1          | 20      | 5          | 0 55    | 11         | 27         | 34         | 27 49   | 61         | 25      | 30         | 21      | 50         | 12      |            |
| 2          | 20      | 5          | 1 50    | 12         | 27         | 34         | 28 20   | 62         | 25      | 30         | 21      | 51         | 12      |            |
| 3          | 20      | 5          | 2 44    | 13         | 27         | 34         | 29 11   | 63         | 25      | 30         | 21      | 52         | 12      |            |
| 4          | 20      | 5          | 3 39    | 14         | 27         | 34         | 30 22   | 64         | 25      | 30         | 21      | 53         | 12      |            |
| 5          | 20      | 5          | 4 34    | 15         | 27         | 34         | 31 13   | 65         | 25      | 30         | 21      | 54         | 12      |            |
| 6          | 20      | 5          | 5 28    | 16         | 27         | 34         | 32 4    | 66         | 25      | 30         | 21      | 55         | 12      |            |
| 7          | 20      | 5          | 6 23    | 17         | 27         | 34         | 33 54   | 67         | 25      | 30         | 21      | 56         | 12      |            |
| 8          | 20      | 5          | 7 17    | 18         | 27         | 34         | 34 44   | 68         | 25      | 30         | 21      | 57         | 12      |            |
| 9          | 20      | 5          | 8 12    | 19         | 27         | 34         | 35 34   | 69         | 25      | 30         | 21      | 58         | 12      |            |
| 10         | 20      | 5          | 9 6     | 20         | 27         | 34         | 36 24   | 70         | 25      | 30         | 21      | 59         | 12      |            |
| 11         | 20      | 5          | 10 1    | 21         | 27         | 34         | 37 14   | 71         | 25      | 30         | 21      | 60         | 12      |            |
| 12         | 20      | 5          | 10 55   | 22         | 27         | 34         | 38 4    | 72         | 25      | 30         | 21      | 61         | 12      |            |
| 13         | 20      | 5          | 11 49   | 23         | 27         | 34         | 39 34   | 73         | 25      | 30         | 21      | 62         | 12      |            |
| 14         | 20      | 5          | 12 44   | 24         | 27         | 34         | 40 24   | 74         | 25      | 30         | 21      | 63         | 12      |            |
| 15         | 20      | 5          | 13 38   | 25         | 27         | 34         | 41 14   | 75         | 25      | 30         | 21      | 64         | 12      |            |
| 16         | 20      | 5          | 14 32   | 26         | 27         | 34         | 42 4    | 76         | 25      | 30         | 21      | 65         | 12      |            |
| 17         | 20      | 5          | 15 26   | 27         | 27         | 34         | 43 34   | 77         | 25      | 30         | 21      | 66         | 12      |            |
| 18         | 20      | 5          | 16 20   | 28         | 27         | 34         | 44 24   | 78         | 25      | 30         | 21      | 67         | 12      |            |
| 19         | 20      | 5          | 17 14   | 29         | 27         | 34         | 45 14   | 79         | 25      | 30         | 21      | 68         | 12      |            |
| 20         | 20      | 5          | 18 7    | 30         | 27         | 34         | 46 4    | 80         | 25      | 30         | 21      | 69         | 12      |            |
| 21         | 20      | 5          | 19 1    | 31         | 27         | 34         | 47 34   | 81         | 25      | 30         | 21      | 70         | 12      |            |
| 22         | 20      | 5          | 19 54   | 32         | 27         | 34         | 48 24   | 82         | 25      | 30         | 21      | 71         | 12      |            |
| 23         | 20      | 5          | 20 47   | 33         | 27         | 34         | 49 14   | 83         | 25      | 30         | 21      | 72         | 12      |            |
| 24         | 20      | 5          | 21 39   | 34         | 27         | 34         | 50 4    | 84         | 25      | 30         | 21      | 73         | 12      |            |
| 25         | 20      | 5          | 22 34   | 35         | 27         | 34         | 51 34   | 85         | 25      | 30         | 21      | 74         | 12      |            |
| 26         | 20      | 5          | 23 27   | 36         | 27         | 34         | 52 24   | 86         | 25      | 30         | 21      | 75         | 12      |            |
| 27         | 20      | 5          | 24 19   | 37         | 27         | 34         | 53 14   | 87         | 25      | 30         | 21      | 76         | 12      |            |
| 28         | 20      | 5          | 25 12   | 38         | 27         | 34         | 54 4    | 88         | 25      | 30         | 21      | 77         | 12      |            |
| 29         | 20      | 5          | 26 4    | 39         | 27         | 34         | 55 34   | 89         | 25      | 30         | 21      | 78         | 12      |            |
| 30         | 20      | 5          | 26 50   | 40         | 27         | 34         | 56 24   | 90         | 25      | 30         | 21      | 79         | 12      |            |

| ARCUS           |  |  |  |  | ARCUS           |  |  |  |  | ARCUS           |  |  |  |  | ARCUS           |  |  |  |  |
|-----------------|--|--|--|--|-----------------|--|--|--|--|-----------------|--|--|--|--|-----------------|--|--|--|--|
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Arcus           |  |  |  |  | Arcus           |  |  |  |  | Arcus           |  |  |  |  | Arcus           |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
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| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
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| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  |
| Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  | Defectio.       |  |  |  |  |
| Zate-<br>ratio. |  |  |  |  | Zate-<br>ratio. |  |  |  |  | Z               |  |  |  |  |                 |  |  |  |  |

| ARCUS    |    |       |    |    |            | ARCUS    |    |       |    |    |            | ARCUS    |    |       |    |    |            |
|----------|----|-------|----|----|------------|----------|----|-------|----|----|------------|----------|----|-------|----|----|------------|
| Defectus |    | Arcus |    |    |            | Defectus |    | Arcus |    |    |            | Defectus |    | Arcus |    |    |            |
| s        | m  | fa    | m  | fa | Rate ratio | s        | m  | fa    | m  | fa | Rate ratio | s        | m  | fa    | m  | fa | Rate ratio |
| 1        | 0  | 30    | 54 | 0  | 54         | 11       | 15 | 22    | 58 | 27 | 21         | 61       | 24 | 46    | 24 | 50 | 18         |
| 2        | 1  | 48    | 30 | 51 | 1 47       | 12       | 15 | 50    | 19 | 27 | 7          | 62       | 27 | 2     | 56 | 2  | 50 54      |
| 3        | 1  | 12    | 41 | 30 | 51         | 13       | 16 | 17    | 26 | 26 | 51         | 63       | 27 | 18    | 58 | 50 |            |
| 4        | 2  | 3     | 12 | 30 | 50         | 14       | 16 | 44    | 19 | 26 | 37         | 64       | 27 | 15    | 31 | 51 | 11         |
| 5        | 2  | 34    | 22 | 30 | 48         | 15       | 17 | 10    | 56 | 26 | 22         | 65       | 27 | 49    | 32 | 52 | 5          |
| 6        | 3  | 5     | 10 | 30 | 45         | 16       | 17 | 37    | 18 | 26 | 6          | 66       | 28 | 4     | 3  | 52 | 19         |
| 7        | 3  | 35    | 25 | 30 | 41         | 17       | 18 | 3     | 24 | 25 | 49         | 67       | 28 | 18    | 5  | 53 | 11         |
| 8        | 4  | 6     | 18 | 30 | 39         | 18       | 18 | 29    | 13 | 25 | 32         | 68       | 28 | 11    | 12 | 53 | 40         |
| 9        | 4  | 17    | 17 | 30 | 35         | 19       | 18 | 51    | 45 | 25 | 15         | 69       | 28 | 44    | 22 | 54 | 10         |
| 10       | 5  | 7     | 52 | 30 | 31         | 20       | 19 | 20    | 0  | 24 | 56         | 70       | 28 | 56    | 43 | 54 | 43         |
| 11       | 5  | 18    | 21 | 30 | 27         | 21       | 19 | 44    | 54 | 24 | 37         | 71       | 29 | 8     | 12 | 55 | 12         |
| 12       | 6  | 8     | 50 | 30 | 21         | 22       | 20 | 9     | 31 | 24 | 18         | 72       | 29 | 19    | 47 | 55 | 18         |
| 13       | 6  | 12    | 11 | 30 | 16         | 23       | 20 | 13    | 51 | 23 | 58         | 73       | 29 | 30    | 26 | 56 | 3          |
| 14       | 7  | 9     | 27 | 30 | 10         | 24       | 20 | 57    | 42 | 23 | 38         | 74       | 29 | 40    | 12 | 56 | 29         |
| 15       | 7  | 19    | 17 | 30 | 4          | 25       | 21 | 21    | 27 | 23 | 18         | 75       | 29 | 50    | 2  | 56 | 51         |
| 16       | 8  | 9     | 41 | 29 | 57         | 26       | 21 | 44    | 45 | 22 | 55         | 76       | 29 | 58    | 56 | 57 | 15         |
| 17       | 8  | 19    | 18 | 29 | 50         | 27       | 22 | 7     | 40 | 22 | 34         | 77       | 30 | 7     | 18 | 57 | 35         |
| 18       | 9  | 9     | 18 | 29 | 43         | 28       | 22 | 30    | 14 | 22 | 12         | 78       | 30 | 15    | 2  | 57 | 55         |
| 19       | 9  | 19    | 11 | 29 | 33         | 29       | 22 | 52    | 26 | 21 | 49         | 79       | 30 | 22    | 10 | 58 | 11         |
| 20       | 10 | 8     | 44 | 29 | 26         | 30       | 23 | 14    | 15 | 21 | 25         | 80       | 30 | 28    | 42 | 58 | 30         |
| 21       | 10 | 18    | 10 | 29 | 17         | 31       | 23 | 15    | 40 | 21 | 1          | 81       | 30 | 34    | 38 | 58 | 45         |
| 22       | 11 | 7     | 27 | 29 | 7          | 32       | 23 | 56    | 41 | 20 | 37         | 82       | 30 | 39    | 56 | 58 | 59         |
| 23       | 11 | 15    | 34 | 28 | 58         | 33       | 24 | 17    | 18 | 20 | 12         | 83       | 30 | 44    | 37 | 59 | 12         |
| 24       | 12 | 5     | 12 | 28 | 47         | 34       | 24 | 17    | 30 | 19 | 46         | 84       | 30 | 48    | 41 | 59 | 24         |
| 25       | 12 | 14    | 19 | 28 | 17         | 35       | 24 | 57    | 16 | 19 | 20         | 85       | 30 | 52    | 9  | 59 | 37         |
| 26       | 13 | 2     | 56 | 28 | 24         | 36       | 25 | 16    | 16 | 18 | 51         | 86       | 30 | 54    | 58 | 59 | 40         |
| 27       | 13 | 11    | 20 | 28 | 14         | 37       | 25 | 15    | 29 | 18 | 26         | 87       | 30 | 57    | 10 | 59 | 48         |
| 28       | 13 | 19    | 14 | 28 | 0          | 38       | 25 | 51    | 55 | 17 | 58         | 88       | 30 | 58    | 44 | 59 | 51         |
| 29       | 14 | 27    | 14 | 27 | 49         | 39       | 26 | 11    | 51 | 17 | 10         | 89       | 30 | 59    | 41 | 59 | 57         |
| 30       | 14 | 55    | 23 | 27 | 35         | 40       | 26 | 20    | 21 | 17 | 1          | 90       | 31 | 0     | 0  | 60 | 0          |

| TABLES  |    |    |    |       | TABLES  |    |    |    |       | TABLES  |    |    |    |       |
|---------|----|----|----|-------|---------|----|----|----|-------|---------|----|----|----|-------|
| Arcales |    |    |    |       | Arcales |    |    |    |       | Arcales |    |    |    |       |
| Defect. | g  | m  | fa | m fa  | Defect. | g  | m  | fa | m fa  | Defect. | g  | m  | fa | m fa  |
| 1       | 0  | 31 | 48 | 0 51  | 31      | 15 | 50 | 19 | 27 7  | 61      | 27 | 16 | 42 | 50 8  |
| 2       | 1  | 1  | 35 | 1 46  | 32      | 16 | 18 | 32 | 27 58 | 62      | 27 | 51 | 50 | 50 46 |
| 3       | 1  | 15 | 21 | 2 19  | 33      | 16 | 46 | 30 | 28 49 | 63      | 28 | 10 | 29 | 51 22 |
| 4       | 2  | 2  | 6  | 3 25  | 34      | 17 | 14 | 14 | 29 39 | 64      | 28 | 26 | 36 | 51 57 |
| 5       | 2  | 18 | 30 | 4 25  | 35      | 17 | 41 | 41 | 30 31 | 65      | 28 | 42 | 11 | 52 31 |
| 6       | 3  | 10 | 11 | 5 18  | 36      | 18 | 8  | 51 | 31 22 | 66      | 28 | 57 | 14 | 53 4  |
| 7       | 3  | 42 | 10 | 6 11  | 37      | 18 | 35 | 49 | 32 12 | 67      | 29 | 11 | 45 | 51 25 |
| 8       | 4  | 11 | 46 | 7 4   | 38      | 19 | 2  | 29 | 33 2  | 68      | 29 | 25 | 42 | 54 6  |
| 9       | 4  | 45 | 19 | 7 56  | 39      | 19 | 28 | 51 | 31 50 | 69      | 29 | 39 | 5  | 54 37 |
| 10      | 5  | 16 | 47 | 8 50  | 40      | 19 | 54 | 55 | 34 39 | 70      | 29 | 51 | 55 | 55 5  |
| 11      | 5  | 48 | 12 | 9 42  | 41      | 20 | 20 | 19 | 35 29 | 71      | 30 | 4  | 10 | 55 31 |
| 12      | 6  | 19 | 32 | 10 35 | 42      | 20 | 46 | 5  | 36 17 | 72      | 30 | 15 | 50 | 55 59 |
| 13      | 6  | 50 | 44 | 11 29 | 43      | 21 | 11 | 11 | 37 6  | 73      | 30 | 26 | 55 | 56 24 |
| 14      | 7  | 21 | 56 | 12 21 | 44      | 21 | 15 | 58 | 37 51 | 74      | 30 | 37 | 24 | 56 48 |
| 15      | 7  | 51 | 59 | 13 14 | 45      | 21 | 0  | 11 | 38 41 | 75      | 30 | 47 | 17 | 57 10 |
| 16      | 8  | 21 | 56 | 14 7  | 46      | 21 | 24 | 29 | 39 26 | 76      | 30 | 56 | 11 | 57 32 |
| 17      | 8  | 54 | 46 | 14 59 | 47      | 22 | 48 | 9  | 40 15 | 77      | 31 | 5  | 15 | 57 52 |
| 18      | 9  | 25 | 29 | 15 52 | 48      | 22 | 11 | 29 | 41 1  | 78      | 31 | 13 | 15 | 58 11 |
| 19      | 9  | 56 | 5  | 16 41 | 49      | 22 | 22 | 31 | 41 46 | 79      | 31 | 20 | 40 | 58 28 |
| 20      | 10 | 26 | 11 | 17 37 | 50      | 23 | 57 | 0  | 42 33 | 80      | 31 | 27 | 27 | 58 44 |
| 21      | 10 | 56 | 50 | 18 29 | 51      | 24 | 19 | 10 | 43 17 | 81      | 31 | 33 | 17 | 58 57 |
| 22      | 11 | 26 | 59 | 19 21 | 52      | 24 | 40 | 56 | 44 1  | 82      | 31 | 39 | 8  | 59 11 |
| 23      | 11 | 56 | 59 | 20 14 | 53      | 25 | 2  | 15 | 44 45 | 83      | 31 | 44 | 1  | 59 23 |
| 24      | 12 | 26 | 59 | 21 6  | 54      | 25 | 21 | 10 | 45 27 | 84      | 31 | 48 | 15 | 59 31 |
| 25      | 12 | 56 | 29 | 21 58 | 55      | 25 | 41 | 38 | 46 9  | 85      | 31 | 51 | 49 | 59 42 |
| 26      | 13 | 25 | 58 | 22 49 | 56      | 26 | 1  | 39 | 46 51 | 86      | 31 | 54 | 46 | 59 48 |
| 27      | 13 | 55 | 15 | 23 41 | 57      | 26 | 19 | 6  | 47 33 | 87      | 31 | 57 | 1  | 59 54 |
| 28      | 14 | 24 | 51 | 24 31 | 58      | 26 | 42 | 18 | 48 11 | 88      | 31 | 58 | 41 | 59 58 |
| 29      | 14 | 51 | 13 | 25 24 | 59      | 27 | 0  | 18 | 48 52 | 89      | 31 | 59 | 40 | 60 0  |
| 30      | 15 | 21 | 52 | 26 16 | 60      | 27 | 19 | 4  | 49 30 | 90      | 32 | 0  | 0  | 60 0  |

| ARCUS    |    |    |    |       | ARCUS    |    |    |    |       | ARCUS    |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| Defectio |    |    |    |       | Defectio |    |    |    |       | Defectio |    |    |    |       |
| Arcus    |    |    |    |       | Arcus    |    |    |    |       | Arcus    |    |    |    |       |
| g        | m  | Pa | m  | Pa    | g        | m  | Pa | m  | Pa    | g        | m  | Pa | m  | Pa    |
| 1        | 0  | 32 | 41 | 0 52  | 11       | 16 | 17 | 26 | 26 51 | 61       | 28 | 26 | 50 | 49 59 |
| 2        | 1  | 5  | 21 | 1 45  | 12       | 16 | 46 | 30 | 27 44 | 62       | 28 | 44 | 36 | 50 16 |
| 3        | 1  | 18 | 0  | 2 37  | 13       | 17 | 15 | 19 | 28 34 | 63       | 29 | 1  | 51 | 51 11 |
| 4        | 2  | 10 | 18 | 3 30  | 14       | 17 | 41 | 51 | 29 25 | 64       | 29 | 18 | 31 | 51 47 |
| 5        | 2  | 41 | 15 | 4 22  | 15       | 18 | 12 | 12 | 30 15 | 65       | 29 | 34 | 42 | 52 21 |
| 6        | 3  | 15 | 49 | 5 14  | 16       | 18 | 40 | 15 | 31 6  | 66       | 29 | 50 | 18 | 52 55 |
| 7        | 3  | 48 | 21 | 6 6   | 17       | 19 | 8  | 1  | 31 56 | 67       | 30 | 5  | 20 | 53 28 |
| 8        | 4  | 20 | 50 | 6 59  | 18       | 19 | 15 | 31 | 32 44 | 68       | 30 | 19 | 48 | 54 0  |
| 9        | 4  | 51 | 15 | 7 52  | 19       | 20 | 2  | 41 | 33 35 | 69       | 30 | 31 | 42 | 54 30 |
| 10       | 5  | 25 | 17 | 8 41  | 20       | 20 | 29 | 34 | 34 24 | 70       | 30 | 47 | 0  | 54 59 |
| 11       | 5  | 57 | 54 | 9 36  | 21       | 20 | 54 | 8  | 35 12 | 71       | 30 | 59 | 41 | 55 27 |
| 12       | 6  | 30 | 7  | 10 18 | 22       | 21 | 22 | 22 | 36 2  | 72       | 31 | 11 | 40 | 55 54 |
| 13       | 7  | 2  | 15 | 11 20 | 23       | 21 | 48 | 17 | 36 49 | 73       | 31 | 21 | 19 | 56 20 |
| 14       | 7  | 34 | 17 | 12 12 | 24       | 22 | 11 | 51 | 37 37 | 74       | 31 | 34 | 12 | 56 44 |
| 15       | 8  | 6  | 11 | 13 5  | 25       | 22 | 19 | 4  | 38 25 | 75       | 31 | 44 | 27 | 57 8  |
| 16       | 8  | 18 | 3  | 13 56 | 26       | 23 | 1  | 55 | 39 11 | 76       | 31 | 54 | 5  | 57 30 |
| 17       | 9  | 9  | 45 | 14 49 | 27       | 23 | 28 | 24 | 40 0  | 77       | 32 | 1  | 5  | 57 50 |
| 18       | 9  | 41 | 21 | 15 41 | 28       | 23 | 52 | 30 | 40 46 | 78       | 32 | 11 | 26 | 58 9  |
| 19       | 10 | 12 | 48 | 16 34 | 29       | 24 | 14 | 13 | 41 33 | 79       | 32 | 19 | 8  | 58 27 |
| 20       | 10 | 44 | 8  | 17 25 | 30       | 24 | 39 | 31 | 42 18 | 80       | 32 | 26 | 11 | 58 41 |
| 21       | 11 | 15 | 19 | 18 17 | 31       | 25 | 2  | 27 | 43 1  | 81       | 32 | 32 | 34 | 58 58 |
| 22       | 11 | 46 | 20 | 19 11 | 32       | 25 | 24 | 57 | 43 47 | 82       | 32 | 38 | 19 | 59 11 |
| 23       | 12 | 17 | 11 | 20 1  | 33       | 25 | 47 | 0  | 44 11 | 83       | 32 | 43 | 24 | 59 21 |
| 24       | 12 | 47 | 50 | 20 52 | 34       | 26 | 8  | 37 | 45 14 | 84       | 32 | 47 | 48 | 59 31 |
| 25       | 13 | 18 | 27 | 21 44 | 35       | 26 | 29 | 47 | 45 57 | 85       | 32 | 51 | 31 | 59 40 |
| 26       | 13 | 48 | 47 | 22 34 | 36       | 26 | 50 | 30 | 46 39 | 86       | 32 | 54 | 14 | 59 47 |
| 27       | 14 | 18 | 56 | 23 28 | 37       | 27 | 10 | 45 | 47 20 | 87       | 32 | 56 | 57 | 59 53 |
| 28       | 14 | 48 | 51 | 24 19 | 38       | 27 | 30 | 39 | 48 2  | 88       | 32 | 58 | 39 | 59 56 |
| 29       | 15 | 18 | 37 | 25 11 | 39       | 27 | 49 | 47 | 48 41 | 89       | 32 | 59 | 40 | 59 59 |
| 30       | 15 | 48 | 8  | 26 2  | 40       | 28 | 8  | 34 | 49 19 | 90       | 33 | 0  | 0  | 60 0  |



| ARCUS       |    |    |    |       | ARCUS       |    |    |    |       | ARCUS       |    |    |    |       |
|-------------|----|----|----|-------|-------------|----|----|----|-------|-------------|----|----|----|-------|
| Defectus.   |    |    |    |       | Defectus.   |    |    |    |       | Defectus.   |    |    |    |       |
| Arcus       |    |    |    |       | Arcus       |    |    |    |       | Arcus       |    |    |    |       |
| Rate ratio. |    |    |    |       | Rate ratio. |    |    |    |       | Rate ratio. |    |    |    |       |
| m fa        |    |    |    |       | m fa        |    |    |    |       | m fa        |    |    |    |       |
| 1           | 0  | 33 | 33 | 0 52  | 31          | 16 | 44 | 19 | 26 37 | 61          | 29 | 16 | 49 | 49 47 |
| 2           | 1  | 33 | 33 | 1 43  | 32          | 17 | 14 | 54 | 27 27 | 62          | 29 | 35 | 11 | 50 25 |
| 3           | 1  | 33 | 31 | 2 36  | 33          | 17 | 41 | 51 | 28 19 | 63          | 29 | 51 | 2  | 51 2  |
| 4           | 2  | 14 | 8  | 3 27  | 34          | 18 | 13 | 18 | 29 9  | 64          | 30 | 10 | 20 | 51 37 |
| 5           | 2  | 47 | 17 | 4 19  | 35          | 18 | 42 | 27 | 30 0  | 65          | 30 | 27 | 3  | 52 14 |
| 6           | 3  | 21 | 3  | 5 11  | 36          | 19 | 11 | 21 | 30 49 | 66          | 30 | 43 | 11 | 52 47 |
| 7           | 3  | 54 | 27 | 6 3   | 37          | 19 | 39 | 37 | 31 30 | 67          | 30 | 50 | 48 | 53 21 |
| 8           | 4  | 27 | 49 | 6 54  | 38          | 20 | 8  | 15 | 32 29 | 68          | 31 | 14 | 48 | 53 52 |
| 9           | 5  | 1  | 7  | 7 45  | 39          | 20 | 16 | 16 | 33 18 | 69          | 31 | 23 | 12 | 54 23 |
| 10          | 5  | 34 | 20 | 8 38  | 40          | 21 | 3  | 50 | 34 7  | 70          | 31 | 41 | 59 | 54 54 |
| 11          | 6  | 7  | 10 | 9 30  | 41          | 21 | 31 | 20 | 35 57 | 71          | 31 | 55 | 10 | 55 22 |
| 12          | 6  | 40 | 35 | 10 21 | 42          | 21 | 58 | 24 | 36 45 | 72          | 32 | 7  | 41 | 56 50 |
| 13          | 7  | 13 | 35 | 11 13 | 43          | 22 | 25 | 6  | 37 34 | 73          | 32 | 19 | 19 | 56 16 |
| 14          | 7  | 32 | 54 | 12 5  | 44          | 22 | 51 | 28 | 38 23 | 74          | 32 | 30 | 56 | 56 41 |
| 15          | 8  | 19 | 18 | 12 56 | 45          | 23 | 17 | 29 | 39 9  | 75          | 32 | 41 | 35 | 57 4  |
| 16          | 8  | 51 | 50 | 13 48 | 46          | 23 | 43 | 8  | 40 57 | 76          | 32 | 51 | 35 | 57 25 |
| 17          | 9  | 24 | 34 | 14 40 | 47          | 24 | 8  | 24 | 42 44 | 77          | 33 | 0  | 55 | 58 46 |
| 18          | 9  | 57 | 2  | 15 31 | 48          | 24 | 31 | 16 | 43 32 | 78          | 33 | 9  | 35 | 58 6  |
| 19          | 10 | 29 | 22 | 16 22 | 49          | 24 | 57 | 46 | 44 16 | 79          | 33 | 17 | 35 | 58 23 |
| 20          | 11 | 1  | 33 | 17 14 | 50          | 25 | 21 | 51 | 45 4  | 80          | 33 | 24 | 54 | 58 40 |
| 21          | 11 | 31 | 55 | 18 6  | 51          | 25 | 45 | 30 | 46 47 | 81          | 33 | 41 | 32 | 58 55 |
| 22          | 12 | 5  | 11 | 18 57 | 52          | 26 | 8  | 44 | 47 32 | 82          | 33 | 57 | 30 | 59 8  |
| 23          | 12 | 37 | 14 | 19 49 | 53          | 26 | 31 | 31 | 48 16 | 83          | 33 | 42 | 45 | 59 20 |
| 24          | 13 | 8  | 48 | 20 40 | 54          | 26 | 51 | 51 | 49 0  | 84          | 33 | 47 | 19 | 59 31 |
| 25          | 13 | 40 | 11 | 21 32 | 55          | 27 | 15 | 44 | 49 43 | 85          | 33 | 51 | 11 | 59 40 |
| 26          | 14 | 11 | 23 | 22 23 | 56          | 27 | 27 | 9  | 50 25 | 86          | 33 | 54 | 21 | 59 47 |
| 27          | 14 | 41 | 24 | 23 15 | 57          | 27 | 58 | 5  | 51 7  | 87          | 33 | 56 | 1  | 59 52 |
| 28          | 15 | 13 | 12 | 24 5  | 58          | 28 | 18 | 31 | 52 49 | 88          | 33 | 58 | 35 | 59 57 |
| 29          | 15 | 41 | 48 | 24 55 | 59          | 28 | 38 | 28 | 53 30 | 89          | 33 | 59 | 39 | 59 59 |
| 30          | 16 | 14 | 10 | 25 46 | 60          | 28 | 57 | 18 | 54 9  | 90          | 34 | 0  | 0  | 60 0  |

| ARCUS   |    |       |    |       | ARCUS   |    |       |    |       | ARCUS   |    |       |    |      |
|---------|----|-------|----|-------|---------|----|-------|----|-------|---------|----|-------|----|------|
| Deficit |    | Arcus |    | Rate  | Deficit |    | Arcus |    | Rate  | Deficit |    | Arcus |    | Rate |
| h       | m  | h     | m  | h     | h       | m  | h     | m  | h     | h       | m  | h     | m  | h    |
| 1       | 0  | 14    | 25 | 0 51  | 11      | 17 | 10    | 56 | 26 22 | 61      | 40 | 6     | 36 | 1    |
| 2       | 1  | 14    | 40 | 1 41  | 12      | 17 | 41    | 41 | 27 12 | 62      | 10 | 25    | 47 | 2    |
| 3       | 1  | 14    | 22 | 2 33  | 13      | 18 | 12    | 42 | 28 3  | 63      | 30 | 44    | 4  | 3    |
| 4       | 2  | 17    | 35 | 3 25  | 14      | 18 | 42    | 27 | 28 54 | 64      | 31 | 1     | 57 | 4    |
| 5       | 2  | 14    | 18 | 4 15  | 15      | 19 | 12    | 27 | 29 43 | 65      | 11 | 19    | 37 | 5    |
| 6       | 3  | 14    | 14 | 5 7   | 16      | 19 | 42    | 10 | 30 12 | 66      | 31 | 36    | 0  | 6    |
| 7       | 4  | 0     | 30 | 5 58  | 17      | 20 | 11    | 36 | 31 22 | 67      | 31 | 52    | 9  | 7    |
| 8       | 4  | 14    | 13 | 6 49  | 18      | 20 | 40    | 44 | 32 12 | 68      | 32 | 7     | 40 | 8    |
| 9       | 5  | 14    | 6  | 7 41  | 19      | 21 | 9     | 34 | 33 1  | 69      | 32 | 22    | 15 | 9    |
| 10      | 5  | 42    | 58 | 8 32  | 20      | 21 | 38    | 5  | 33 50 | 70      | 32 | 16    | 31 | 10   |
| 11      | 6  | 16    | 39 | 9 23  | 21      | 22 | 6     | 17 | 34 10 | 71      | 32 | 50    | 32 | 11   |
| 12      | 6  | 50    | 56 | 10 14 | 22      | 22 | 34    | 9  | 35 28 | 72      | 33 | 1     | 44 | 12   |
| 13      | 7  | 24    | 48 | 11 5  | 23      | 23 | 11    | 40 | 36 16 | 73      | 33 | 15    | 55 | 13   |
| 14      | 7  | 58    | 31 | 11 56 | 24      | 23 | 28    | 31 | 37 3  | 74      | 33 | 27    | 37 | 14   |
| 15      | 8  | 32    | 13 | 12 47 | 25      | 23 | 55    | 38 | 37 51 | 75      | 33 | 38    | 39 | 15   |
| 16      | 9  | 5     | 47 | 13 39 | 26      | 24 | 11    | 5  | 38 41 | 76      | 33 | 49    | 0  | 16   |
| 17      | 9  | 39    | 14 | 14 29 | 27      | 24 | 48    | 8  | 39 28 | 77      | 33 | 58    | 41 | 17   |
| 18      | 10 | 12    | 11 | 15 20 | 28      | 25 | 11    | 48 | 40 14 | 78      | 34 | 7     | 8  | 18   |
| 19      | 10 | 47    | 44 | 16 12 | 29      | 25 | 19    | 2  | 41 1  | 79      | 34 | 15    | 58 | 19   |
| 20      | 11 | 18    | 47 | 17 3  | 30      | 26 | 3     | 51 | 41 47 | 80      | 34 | 23    | 34 | 20   |
| 21      | 11 | 51    | 42 | 17 55 | 31      | 26 | 28    | 17 | 42 11 | 81      | 34 | 30    | 27 | 21   |
| 22      | 12 | 24    | 28 | 18 44 | 32      | 26 | 52    | 16 | 43 17 | 82      | 34 | 36    | 18 | 22   |
| 23      | 12 | 59    | 1  | 19 36 | 33      | 27 | 15    | 47 | 44 2  | 83      | 34 | 42    | 5  | 23   |
| 24      | 13 | 20    | 28 | 20 27 | 34      | 27 | 18    | 51 | 44 46 | 84      | 34 | 46    | 50 | 24   |
| 25      | 14 | 1     | 41 | 21 17 | 35      | 28 | 1     | 27 | 45 29 | 85      | 34 | 50    | 51 | 25   |
| 26      | 14 | 31    | 51 | 22 8  | 36      | 28 | 21    | 34 | 46 13 | 86      | 34 | 54    | 8  | 26   |
| 27      | 15 | 5     | 37 | 23 0  | 37      | 28 | 45    | 12 | 46 55 | 87      | 34 | 56    | 42 | 27   |
| 28      | 15 | 37    | 17 | 23 50 | 38      | 29 | 6     | 38 | 47 36 | 88      | 34 | 58    | 12 | 28   |
| 29      | 16 | 8     | 41 | 24 41 | 39      | 29 | 20    | 50 | 48 15 | 89      | 34 | 59    | 38 | 29   |
| 30      | 16 | 39    | 0  | 25 32 | 40      | 29 | 47    | 2  | 48 57 | 90      | 35 | 0     | 0  | 30   |

| Decid. dero. | FIBRUS |    |    |       | Diff. fer. m. Rate ratio. | Decid. dero. | FIBRUS |    |    |       | Diff. fer. m. Rate ratio. | Decid. dero. | FIBRUS |    |    |       | Diff. fer. m. Rate ratio. |
|--------------|--------|----|----|-------|---------------------------|--------------|--------|----|----|-------|---------------------------|--------------|--------|----|----|-------|---------------------------|
|              | g      | m  | fa | m fa  |                           |              | g      | m  | fa | m fa  |                           |              | g      | m  | fa | m fa  |                           |
| 1            | 0      | 35 | 16 | 0 50  |                           | 31           | 17     | 17 | 18 | 11    |                           | 61           | 30     | 56 | 12 | 49 23 |                           |
| 2            | 1      | 10 | 32 | 1 41  |                           | 32           | 18     | 8  | 53 | 25 6  |                           | 62           | 31     | 55 | 51 | 50 2  |                           |
| 3            | 1      | 45 | 46 | 2 32  |                           | 33           | 18     | 40 | 15 | 27 46 |                           | 63           | 31     | 54 | 55 | 50 41 |                           |
| 4            | 2      | 21 | 10 | 3 22  |                           | 34           | 19     | 11 | 21 | 28 36 |                           | 64           | 31     | 53 | 54 | 51 17 |                           |
| 5            | 2      | 56 | 11 | 4 13  |                           | 35           | 19     | 42 | 10 | 29 26 |                           | 65           | 32     | 51 | 20 | 51 55 |                           |
| 6            | 3      | 31 | 21 | 5 3   |                           | 36           | 20     | 12 | 41 | 10 15 |                           | 66           | 32     | 50 | 18 | 52 30 |                           |
| 7            | 4      | 6  | 28 | 6 54  |                           | 37           | 20     | 42 | 50 | 11 4  |                           | 67           | 32     | 49 | 16 | 52 4  |                           |
| 8            | 4      | 41 | 32 | 7 44  |                           | 38           | 21     | 12 | 56 | 11 54 |                           | 68           | 33     | 47 | 26 | 51 36 |                           |
| 9            | 5      | 16 | 43 | 8 35  |                           | 39           | 21     | 42 | 45 | 12 44 |                           | 69           | 33     | 46 | 22 | 54 8  |                           |
| 10           | 5      | 51 | 30 | 9 25  |                           | 40           | 21     | 11 | 50 | 13 34 |                           | 70           | 33     | 45 | 18 | 54 39 |                           |
| 11           | 6      | 26 | 6  | 10 16 |                           | 41           | 22     | 40 | 56 | 14 22 |                           | 71           | 33     | 44 | 15 | 55 8  |                           |
| 12           | 7      | 1  | 10 | 11 7  |                           | 42           | 22     | 9  | 47 | 15 10 |                           | 72           | 33     | 43 | 12 | 55 18 |                           |
| 13           | 7      | 35 | 51 | 12 7  |                           | 43           | 23     | 37 | 56 | 16 0  |                           | 73           | 34     | 42 | 5  | 56 4  |                           |
| 14           | 8      | 10 | 30 | 13 47 |                           | 44           | 23     | 5  | 54 | 16 50 |                           | 74           | 34     | 41 | 12 | 56 30 |                           |
| 15           | 8      | 45 | 4  | 14 38 |                           | 45           | 24     | 33 | 31 | 17 36 |                           | 75           | 34     | 40 | 10 | 56 55 |                           |
| 16           | 9      | 19 | 26 | 15 28 |                           | 46           | 25     | 0  | 40 | 18 23 |                           | 76           | 34     | 39 | 7  | 57 18 |                           |
| 17           | 9      | 54 | 43 | 16 10 |                           | 47           | 25     | 37 | 35 | 19 10 |                           | 77           | 34     | 38 | 4  | 57 41 |                           |
| 18           | 10     | 27 | 51 | 17 11 |                           | 48           | 25     | 54 | 2  | 20 57 |                           | 78           | 35     | 37 | 1  | 58 0  |                           |
| 19           | 11     | 1  | 56 | 18 0  |                           | 49           | 26     | 30 | 3  | 21 44 |                           | 79           | 35     | 36 | 14 | 58 19 |                           |
| 20           | 11     | 35 | 50 | 19 51 |                           | 50           | 26     | 47 | 40 | 22 30 |                           | 80           | 35     | 35 | 22 | 58 38 |                           |
| 21           | 12     | 9  | 37 | 20 41 |                           | 51           | 27     | 10 | 50 | 23 16 |                           | 81           | 35     | 34 | 29 | 58 52 |                           |
| 22           | 12     | 41 | 12 | 21 33 |                           | 52           | 27     | 15 | 43 | 24 1  |                           | 82           | 35     | 33 | 35 | 59 7  |                           |
| 23           | 13     | 16 | 49 | 22 22 |                           | 53           | 27     | 50 | 49 | 24 46 |                           | 83           | 35     | 32 | 41 | 59 19 |                           |
| 24           | 13     | 49 | 52 | 23 13 |                           | 54           | 28     | 23 | 47 | 25 31 |                           | 84           | 35     | 31 | 46 | 59 30 |                           |
| 25           | 14     | 23 | 0  | 24 4  |                           | 55           | 28     | 46 | 54 | 26 16 |                           | 85           | 35     | 30 | 50 | 59 39 |                           |
| 26           | 14     | 55 | 54 | 25 54 |                           | 56           | 29     | 9  | 47 | 27 2  |                           | 86           | 35     | 29 | 51 | 59 48 |                           |
| 27           | 15     | 28 | 17 | 26 44 |                           | 57           | 29     | 12 | 7  | 28 40 |                           | 87           | 35     | 28 | 54 | 59 51 |                           |
| 28           | 16     | 1  | 7  | 27 35 |                           | 58           | 29     | 51 | 56 | 29 22 |                           | 88           | 35     | 27 | 58 | 59 58 |                           |
| 29           | 16     | 33 | 24 | 28 35 |                           | 59           | 30     | 15 | 13 | 30 4  |                           | 89           | 35     | 26 | 59 | 60 1  |                           |
| 30           | 17     | 5  | 50 | 29 15 |                           | 60           | 30     | 35 | 50 | 31 13 |                           | 90           | 36     | 0  | 0  | 60 0  |                           |

[illegible]

| ARCAUS         |    |    |    |      | ARCAUS         |    |    |    |      | ARCAUS         |    |    |    |      | ARCAUS         |    |   |    |      |
|----------------|----|----|----|------|----------------|----|----|----|------|----------------|----|----|----|------|----------------|----|---|----|------|
| Arcales        |    |    |    |      | Arcales        |    |    |    |      | Arcales        |    |    |    |      | Arcales        |    |   |    |      |
| Zate-<br>rals. |    |    |    |      | Zate-<br>rals. |    |    |    |      | Zate-<br>rals. |    |    |    |      | Zate-<br>rals. |    |   |    |      |
| Defectus.      | g  | m  | fa | m fa | Defectus.      | g  | m  | fa | m fa | Defectus.      | g  | m  | fa | m fa | Defectus.      | g  | m | fa | m fa |
| 1              | 0  | 16 | 56 | 10   | 49             | 31 | 18 | 29 | 11   | 25             | 61 | 31 | 34 | 47   | 48             | 58 |   |    |      |
| 2              | 1  | 11 | 52 | 1    | 18             | 32 | 19 | 2  | 30   | 62             | 32 | 55 | 44 | 21   | 49             | 38 |   |    |      |
| 3              | 2  | 50 | 47 | 2    | 18             | 33 | 19 | 35 | 31   | 63             | 33 | 16 | 15 |      | 50             | 17 |   |    |      |
| 4              | 3  | 36 | 54 | 3    | 17             | 34 | 20 | 8  | 45   | 64             | 34 | 35 | 31 | 7    | 50             | 55 |   |    |      |
| 5              | 4  | 4  | 41 | 4    | 6              | 35 | 20 | 40 | 44   | 65             | 35 | 54 | 58 |      | 51             | 31 |   |    |      |
| 6              | 5  | 36 | 50 | 5    | 55             | 36 | 21 | 12 | 52   | 66             | 36 | 18 | 30 |      | 52             | 8  |   |    |      |
| 7              | 6  | 41 | 23 | 6    | 55             | 37 | 21 | 44 | 50   | 67             | 37 | 31 | 18 |      | 52             | 44 |   |    |      |
| 8              | 7  | 18 | 10 | 7    | 45             | 38 | 22 | 16 | 27   | 68             | 38 | 48 | 10 |      | 51             | 18 |   |    |      |
| 9              | 8  | 36 | 41 | 8    | 34             | 39 | 22 | 47 | 45   | 69             | 39 | 5  | 1  |      | 53             | 51 |   |    |      |
| 10             | 9  | 11 | 16 | 9    | 23             | 40 | 23 | 18 | 41   | 70             | 40 | 15 | 8  |      | 54             | 24 |   |    |      |
| 11             | 10 | 16 | 31 | 10   | 12             | 41 | 23 | 49 | 22   | 71             | 41 | 35 | 58 |      | 54             | 59 |   |    |      |
| 12             | 11 | 16 | 28 | 11   | 9              | 42 | 24 | 19 | 40   | 72             | 42 | 35 | 35 |      | 55             | 26 |   |    |      |
| 13             | 12 | 20 | 23 | 12   | 51             | 43 | 24 | 49 | 38   | 73             | 43 | 11 | 4  |      | 55             | 54 |   |    |      |
| 14             | 13 | 30 | 38 | 13   | 40             | 44 | 25 | 49 | 12   | 74             | 44 | 17 | 9  |      | 56             | 20 |   |    |      |
| 15             | 14 | 16 | 12 | 14   | 29             | 45 | 25 | 45 | 25   | 75             | 45 | 12 | 16 |      |                |    |   |    |      |
| 16             | 15 | 36 | 5  | 15   | 19             | 46 | 25 | 48 | 49   | 76             | 46 | 11 | 31 |      | 56             | 45 |   |    |      |
| 17             | 16 | 46 | 13 | 16   | 8              | 47 | 26 | 17 | 14   | 77             | 47 | 36 | 40 |      | 57             | 9  |   |    |      |
| 18             | 17 | 55 | 58 | 17   | 58             | 48 | 26 | 45 | 39   | 78             | 48 | 31 | 44 |      | 57             | 32 |   |    |      |
| 19             | 18 | 35 | 41 | 18   | 47             | 49 | 27 | 11 | 39   | 79             | 49 | 37 | 1  |      | 57             | 53 |   |    |      |
| 20             | 19 | 31 | 45 | 19   | 37             | 50 | 27 | 41 | 14   | 80             | 50 | 37 | 10 |      | 58             | 13 |   |    |      |
| 21             | 20 | 35 | 16 | 20   | 26             | 51 | 28 | 8  | 23   | 81             | 51 | 37 | 19 |      | 58             | 31 |   |    |      |
| 22             | 21 | 44 | 47 | 21   | 15             | 52 | 28 | 35 | 5    | 82             | 52 | 37 | 27 |      | 58             | 48 |   |    |      |
| 23             | 22 | 35 | 16 | 22   | 15             | 53 | 29 | 1  | 20   | 83             | 53 | 37 | 11 |      | 59             | 3  |   |    |      |
| 24             | 23 | 20 | 3  | 23   | 6              | 54 | 29 | 27 | 6    | 84             | 54 | 37 | 40 |      | 59             | 17 |   |    |      |
| 25             | 24 | 34 | 57 | 24   | 55             | 55 | 30 | 25 | 12   | 85             | 55 | 37 | 45 |      | 59             | 27 |   |    |      |
| 26             | 25 | 34 | 46 | 25   | 45             | 56 | 30 | 24 | 47   | 86             | 56 | 37 | 49 |      | 59             | 38 |   |    |      |
| 27             | 26 | 34 | 34 | 26   | 34             | 57 | 31 | 5  | 17   | 87             | 57 | 37 | 47 |      | 59             | 45 |   |    |      |
| 28             | 27 | 34 | 24 | 27   | 24             | 58 | 31 | 41 | 27   | 88             | 58 | 37 | 54 |      | 59             | 51 |   |    |      |
| 29             | 28 | 34 | 11 | 28   | 14             | 59 | 31 | 28 | 26   | 89             | 59 | 37 | 56 |      | 59             | 52 |   |    |      |
| 30             | 29 | 34 | 5  | 29   | 5              | 60 | 32 | 13 | 15   | 90             | 60 | 37 | 59 |      | 59             | 59 |   |    |      |
|                | 30 | 33 | 21 | 30   | 41             |    | 32 | 21 | 32   |                | 60 | 38 | 0  |      | 60             | 0  |   |    |      |

| T R I N S U E R |      |      |      |       | T R I N S U E R |      |      |      |       | T R I N S U E R |      |      |      |       |
|-----------------|------|------|------|-------|-----------------|------|------|------|-------|-----------------|------|------|------|-------|
| Defectives      |      |      |      |       | Defectives      |      |      |      |       | Defectives      |      |      |      |       |
| Defectives      | Rate | Rate | Rate | Rate  | Defectives      | Rate | Rate | Rate | Rate  | Defectives      | Rate | Rate | Rate | Rate  |
| 1               | 0    | 17   | 45   | 0 42  | 11              | 18   | 54   | 45   | 25 15 | 61              | 11   | 21   | 45   | 48 41 |
| 2               | 1    | 15   | 30   | 1 18  | 12              | 19   | 28   | 51   | 31 50 | 62              | 11   | 45   | 22   | 49 24 |
| 3               | 1    | 31   | 15   | 2 23  | 13              | 20   | 2    | 41   | 31 55 | 63              | 14   | 6    | 22   | 50 4  |
| 4               | 2    | 31   | 28   | 3 14  | 14              | 20   | 16   | 16   | 31 18 | 64              | 14   | 26   | 46   | 50 42 |
| 5               | 3    | 3    | 99   | 4 1   | 15              | 21   | 9    | 14   | 31 1  | 65              | 14   | 46   | 3    | 51 20 |
| 6               | 3    | 45   | 18   | 4 51  | 16              | 21   | 42   | 35   | 32 44 | 66              | 15   | 5    | 36   | 51 58 |
| 7               | 4    | 21   | 51   | 5 40  | 17              | 22   | 15   | 19   | 32 26 | 67              | 15   | 24   | 2    | 52 14 |
| 8               | 5    | 1    | 29   | 6 18  | 18              | 22   | 47   | 45   | 32 6  | 68              | 15   | 41   | 4    | 53 10 |
| 9               | 5    | 30   | 59   | 7 17  | 19              | 23   | 19   | 51   | 31 48 | 69              | 15   | 58   | 52   | 53 44 |
| 10              | 6    | 16   | 36   | 8 5   | 20              | 23   | 51   | 19   | 31 28 | 70              | 16   | 15   | 14   | 54 17 |
| 11              | 6    | 51   | 48   | 8 54  | 21              | 24   | 21   | 7    | 31 26 | 71              | 16   | 30   | 57   | 54 45 |
| 12              | 7    | 31   | 6    | 9 42  | 22              | 24   | 54   | 14   | 31 46 | 72              | 16   | 45   | 51   | 55 17 |
| 13              | 8    | 8    | 18   | 10 12 | 23              | 25   | 0    | 21   | 31 2  | 73              | 17   | 0    | 2    | 55 47 |
| 14              | 8    | 45   | 25   | 11 20 | 24              | 25   | 55   | 21   | 31 51 | 74              | 17   | 14   | 29   | 56 14 |
| 15              | 9    | 21   | 27   | 12 8  | 25              | 26   | 25   | 21   | 31 32 | 75              | 17   | 26   | 10   | 56 40 |
| 16              | 9    | 16   | 48   | 12 58 | 26              | 26   | 55   | 0    | 31 27 | 76              | 17   | 38   | 5    | 57 6  |
| 17              | 10   | 35   | 9    | 13 46 | 27              | 27   | 24   | 11   | 31 48 | 77              | 17   | 49   | 14   | 57 28 |
| 18              | 11   | 12   | 49   | 14 16 | 28              | 27   | 51   | 1    | 31 22 | 78              | 17   | 59   | 15   | 57 51 |
| 19              | 11   | 47   | 21   | 15 25 | 29              | 28   | 21   | 21   | 31 50 | 79              | 18   | 9    | 9    | 58 11 |
| 20              | 12   | 21   | 47   | 16 11 | 30              | 28   | 49   | 18   | 31 10 | 80              | 18   | 17   | 54   | 58 50 |
| 21              | 13   | 2    | 2    | 17 1  | 31              | 29   | 16   | 48   | 41 21 | 81              | 18   | 25   | 31   | 58 47 |
| 22              | 13   | 18   | 9    | 17 51 | 32              | 29   | 41   | 48   | 42 9  | 82              | 18   | 32   | 99   | 59 2  |
| 23              | 14   | 14   | 5    | 18 41 | 33              | 30   | 10   | 19   | 42 56 | 83              | 18   | 39   | 18   | 59 16 |
| 24              | 14   | 49   | 52   | 19 29 | 34              | 30   | 16   | 21   | 43 41 | 84              | 18   | 44   | 46   | 59 28 |
| 25              | 15   | 25   | 27   | 20 19 | 35              | 31   | 1    | 51   | 44 26 | 85              | 18   | 49   | 25   | 59 17 |
| 26              | 16   | 0    | 51   | 21 8  | 36              | 31   | 26   | 54   | 45 11 | 86              | 18   | 51   | 11   | 59 44 |
| 27              | 16   | 16   | 4    | 21 57 | 37              | 31   | 51   | 21   | 45 54 | 87              | 18   | 56   | 11   | 59 50 |
| 28              | 17   | 11   | 4    | 22 46 | 38              | 32   | 15   | 19   | 46 39 | 88              | 18   | 58   | 18   | 59 56 |
| 29              | 17   | 45   | 51   | 23 36 | 39              | 32   | 18   | 41   | 47 22 | 89              | 18   | 59   | 14   | 59 56 |
| 30              | 18   | 20   | 25   | 24 26 | 40              | 33   | 1    | 31   | 48 1  | 90              | 19   | 0    | 0    | 60 0  |



| ARCUS     |    |    |    |       | Diff<br>fer<br>tia | ARCUS     |    |    |    |       | Diff<br>fer<br>tia | ARCUS     |    |    |    |       | Diff<br>fer<br>tia |
|-----------|----|----|----|-------|--------------------|-----------|----|----|----|-------|--------------------|-----------|----|----|----|-------|--------------------|
| Defectus. |    |    |    |       | Rate<br>ratio      | Defectus. |    |    |    |       | Rate<br>ratio.     | Defectus. |    |    |    |       | Rate<br>ratio.     |
| R         | G  | m  | Pa | m Pa  |                    | R         | G  | m  | Pa | m Pa  |                    | R         | G  | m  | Pa | m Pa  |                    |
| 1         | 0  | 38 | 34 | 0 48  |                    | 31        | 19 | 20 | 0  | 24 56 |                    | 61        | 34 | 12 | 28 | 48 28 |                    |
| 2         | 1  | 17 | 8  | 1 35  |                    | 32        | 19 | 54 | 55 | 25 44 |                    | 62        | 34 | 34 | 46 | 49 9  |                    |
| 3         | 1  | 55 | 40 | 2 24  |                    | 33        | 20 | 29 | 34 | 26 34 |                    | 63        | 34 | 56 | 26 | 49 51 |                    |
| 4         | 2  | 34 | 12 | 3 11  |                    | 34        | 21 | 3  | 58 | 27 22 |                    | 64        | 35 | 17 | 28 | 50 31 |                    |
| 5         | 3  | 12 | 42 | 3 59  |                    | 35        | 21 | 38 | 5  | 28 12 |                    | 65        | 35 | 37 | 51 | 51 10 |                    |
| 6         | 3  | 51 | 9  | 4 47  |                    | 36        | 22 | 11 | 55 | 29 1  |                    | 66        | 35 | 57 | 34 | 51 48 |                    |
| 7         | 4  | 29 | 35 | 5 34  |                    | 37        | 22 | 45 | 29 | 29 49 |                    | 67        | 36 | 16 | 36 | 52 24 |                    |
| 8         | 5  | 7  | 57 | 6 22  |                    | 38        | 23 | 18 | 43 | 30 39 |                    | 68        | 36 | 34 | 58 | 52 59 |                    |
| 9         | 5  | 46 | 16 | 7 10  |                    | 39        | 23 | 51 | 39 | 31 28 |                    | 69        | 36 | 52 | 16 | 53 34 |                    |
| 10        | 6  | 24 | 31 | 7 58  |                    | 40        | 24 | 34 | 16 | 32 17 |                    | 70        | 37 | 9  | 31 | 54 7  |                    |
| 11        | 7  | 2  | 42 | 8 46  |                    | 41        | 24 | 56 | 33 | 33 5  |                    | 71        | 37 | 25 | 42 | 54 39 |                    |
| 12        | 7  | 40 | 68 | 9 35  |                    | 42        | 25 | 28 | 28 | 33 54 |                    | 72        | 37 | 41 | 8  | 55 10 |                    |
| 13        | 8  | 18 | 50 | 10 22 |                    | 43        | 26 | 0  | 2  | 34 42 |                    | 73        | 37 | 55 | 49 | 55 39 |                    |
| 14        | 8  | 56 | 45 | 11 11 |                    | 44        | 26 | 41 | 14 | 35 30 |                    | 74        | 38 | 9  | 43 | 56 8  |                    |
| 15        | 9  | 34 | 35 | 11 59 |                    | 45        | 27 | 2  | 2  | 36 19 |                    | 75        | 38 | 21 | 50 | 56 36 |                    |
| 16        | 10 | 12 | 19 | 12 47 |                    | 46        | 27 | 32 | 27 | 37 7  |                    | 76        | 38 | 35 | 11 | 57 1  |                    |
| 17        | 10 | 49 | 55 | 13 36 |                    | 47        | 28 | 2  | 28 | 37 55 |                    | 77        | 38 | 46 | 42 | 57 26 |                    |
| 18        | 11 | 27 | 25 | 14 23 |                    | 48        | 28 | 32 | 3  | 38 44 |                    | 78        | 38 | 57 | 26 | 57 48 |                    |
| 19        | 12 | 4  | 47 | 15 12 |                    | 49        | 29 | 1  | 13 | 39 30 |                    | 79        | 39 | 7  | 54 | 58 8  |                    |
| 20        | 12 | 42 | 0  | 16 0  |                    | 50        | 29 | 29 | 56 | 40 17 |                    | 80        | 39 | 16 | 24 | 58 28 |                    |
| 21        | 13 | 19 | 5  | 16 49 |                    | 51        | 29 | 58 | 11 | 41 4  |                    | 81        | 39 | 24 | 38 | 58 45 |                    |
| 22        | 13 | 56 | 0  | 17 37 |                    | 52        | 30 | 25 | 57 | 41 51 |                    | 82        | 39 | 32 | 1  | 59 0  |                    |
| 23        | 14 | 32 | 46 | 18 25 |                    | 53        | 30 | 53 | 15 | 42 36 |                    | 83        | 39 | 38 | 34 | 59 13 |                    |
| 24        | 15 | 9  | 21 | 19 15 |                    | 54        | 31 | 20 | 2  | 43 23 |                    | 84        | 39 | 44 | 14 | 59 26 |                    |
| 25        | 15 | 45 | 46 | 20 3  |                    | 55        | 31 | 46 | 19 | 44 8  |                    | 85        | 39 | 49 | 2  | 59 37 |                    |
| 26        | 16 | 21 | 59 | 20 52 |                    | 56        | 32 | 12 | 5  | 44 54 |                    | 86        | 39 | 54 | 57 | 59 47 |                    |
| 27        | 16 | 58 | 1  | 21 40 |                    | 57        | 32 | 27 | 17 | 45 38 |                    | 87        | 39 | 56 | 1  | 59 53 |                    |
| 28        | 17 | 33 | 50 | 22 30 |                    | 58        | 33 | 1  | 58 | 46 20 |                    | 88        | 39 | 58 | 14 | 59 57 |                    |
| 29        | 18 | 9  | 27 | 23 17 |                    | 59        | 33 | 26 | 3  | 47 4  |                    | 89        | 39 | 59 | 33 | 60 0  |                    |
| 30        | 18 | 44 | 51 | 24 7  |                    | 60        | 33 | 49 | 33 | 47 47 |                    | 90        | 40 | 0  | 0  | 60 0  |                    |

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| Defectus |    |    |    |       | Defectus |    |    |    |       | Defectus |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| Arcales  |    |    |    |       | Arcales  |    |    |    |       | Arcales  |    |    |    |       |
| g        | g  | m  | Pa | m Pa  | g        | g  | m  | Pa | m Pa  | g        | g  | m  | Pa | m Pa  |
| 1        | 0  | 19 | 11 | 0 47  | 11       | 19 | 44 | 56 | 14 37 | 61       | 35 | 22 | 59 | 48 14 |
| 2        | 1  | 18 | 43 | 1 34  | 12       | 20 | 30 | 30 | 25 26 | 62       | 35 | 23 | 55 | 48 55 |
| 3        | 1  | 58 | 4  | 2 21  | 13       | 20 | 56 | 8  | 26 14 | 63       | 35 | 46 | 17 | 49 36 |
| 4        | 2  | 17 | 21 | 3 8   | 14       | 21 | 31 | 20 | 27 4  | 64       | 36 | 7  | 59 | 50 17 |
| 5        | 3  | 16 | 41 | 3 55  | 15       | 22 | 6  | 17 | 27 52 | 65       | 36 | 29 | 1  | 50 56 |
| 6        | 3  | 55 | 56 | 4 43  | 16       | 22 | 40 | 56 | 28 41 | 66       | 36 | 49 | 22 | 51 34 |
| 7        | 4  | 35 | 9  | 5 30  | 17       | 23 | 15 | 18 | 29 20 | 67       | 37 | 9  | 0  | 52 12 |
| 8        | 5  | 14 | 19 | 6 17  | 18       | 23 | 49 | 23 | 30 18 | 68       | 37 | 27 | 57 | 52 48 |
| 9        | 5  | 53 | 16 | 7 4   | 19       | 24 | 23 | 7  | 31 7  | 69       | 37 | 46 | 18 | 53 23 |
| 10       | 6  | 32 | 29 | 7 52  | 20       | 24 | 56 | 33 | 31 55 | 70       | 38 | 3  | 38 | 54 57 |
| 11       | 7  | 11 | 23 | 8 39  | 21       | 25 | 29 | 38 | 32 44 | 71       | 38 | 16 | 41 | 55 34 |
| 12       | 7  | 50 | 23 | 9 26  | 22       | 26 | 2  | 22 | 33 33 | 72       | 38 | 36 | 18 | 56 1  |
| 13       | 8  | 29 | 12 | 10 14 | 23       | 26 | 34 | 44 | 34 22 | 73       | 38 | 51 | 10 | 56 34 |
| 14       | 9  | 7  | 56 | 11 1  | 24       | 27 | 6  | 44 | 35 10 | 74       | 39 | 5  | 31 | 57 3  |
| 15       | 9  | 46 | 34 | 11 48 | 25       | 27 | 38 | 21 | 35 58 | 75       | 39 | 19 | 26 | 58 30 |
| 16       | 10 | 15 | 6  | 12 35 | 26       | 28 | 9  | 34 | 36 46 | 76       | 39 | 32 | 12 | 59 56 |
| 17       | 11 | 3  | 31 | 13 22 | 27       | 28 | 40 | 23 | 37 33 | 77       | 39 | 44 | 8  | 60 21 |
| 18       | 11 | 41 | 48 | 14 12 | 28       | 29 | 10 | 47 | 38 21 | 78       | 39 | 55 | 14 | 61 41 |
| 19       | 12 | 19 | 59 | 14 59 | 29       | 29 | 29 | 56 | 39 10 | 79       | 40 | 5  | 28 | 62 5  |
| 20       | 12 | 58 | 0  | 15 47 | 30       | 30 | 10 | 13 | 40 44 | 80       | 40 | 14 | 52 | 63 23 |
| 21       | 13 | 35 | 54 | 16 35 | 31       | 30 | 19 | 15 | 41 31 | 81       | 40 | 23 | 23 | 64 42 |
| 22       | 14 | 13 | 37 | 17 23 | 32       | 31 | 7  | 48 | 42 18 | 82       | 40 | 31 | 1  | 65 58 |
| 23       | 14 | 51 | 11 | 18 11 | 33       | 31 | 35 | 51 | 43 5  | 83       | 40 | 40 | 46 | 66 11 |
| 24       | 15 | 28 | 36 | 18 58 | 34       | 32 | 3  | 25 | 44 34 | 84       | 40 | 49 | 4  | 67 25 |
| 25       | 16 | 5  | 49 | 19 47 | 35       | 32 | 30 | 27 | 45 20 | 85       | 40 | 58 | 1  | 68 56 |
| 26       | 16 | 42 | 51 | 20 35 | 36       | 33 | 56 | 59 | 46 4  | 86       | 40 | 59 | 33 | 69 58 |
| 27       | 17 | 19 | 41 | 21 24 | 37       | 33 | 22 | 55 | 47 31 | 87       | 40 | 59 | 0  | 70 0  |
| 28       | 17 | 56 | 30 | 22 11 | 38       | 34 | 48 | 18 | 48 18 | 88       | 40 | 59 | 0  | 71 0  |
| 29       | 18 | 32 | 44 | 23 1  | 39       | 34 | 13 | 7  | 49 48 | 89       | 41 | 0  | 0  | 72 0  |
| 30       | 19 | 3  | 58 | 23 49 | 40       | 35 | 17 | 20 | 50 31 | 90       | 41 | 0  | 0  | 73 0  |

| ARCUS     |    |    |    | ARCUS     |    |    |    | ARCUS     |    |    |    |
|-----------|----|----|----|-----------|----|----|----|-----------|----|----|----|
| Defectus. |    |    |    | Defectus. |    |    |    | Defectus. |    |    |    |
| g         | m  | fa | mi | g         | m  | fa | mi | g         | m  | fa | mi |
| 1         | 0  | 40 | 9  | 31        | 20 | 34 | 24 | 61        | 15 | 49 | 10 |
| 2         | 1  | 40 | 8  | 32        | 20 | 36 | 24 | 62        | 16 | 50 | 10 |
| 3         | 2  | 40 | 7  | 33        | 21 | 36 | 25 | 63        | 16 | 51 | 11 |
| 4         | 3  | 40 | 6  | 34        | 21 | 38 | 26 | 64        | 17 | 52 | 11 |
| 5         | 4  | 40 | 5  | 35        | 22 | 38 | 27 | 65        | 17 | 53 | 12 |
| 6         | 5  | 40 | 4  | 36        | 23 | 39 | 28 | 66        | 18 | 54 | 12 |
| 7         | 6  | 40 | 3  | 37        | 24 | 40 | 29 | 67        | 19 | 55 | 13 |
| 8         | 7  | 40 | 2  | 38        | 25 | 41 | 30 | 68        | 20 | 56 | 13 |
| 9         | 8  | 40 | 1  | 39        | 26 | 42 | 31 | 69        | 21 | 57 | 14 |
| 10        | 9  | 40 | 0  | 40        | 27 | 44 | 32 | 70        | 22 | 58 | 14 |
| 11        | 10 | 40 | 0  | 41        | 28 | 46 | 33 | 71        | 23 | 59 | 15 |
| 12        | 11 | 40 | 0  | 42        | 29 | 48 | 34 | 72        | 24 | 60 | 15 |
| 13        | 12 | 40 | 0  | 43        | 30 | 50 | 35 | 73        | 25 | 61 | 16 |
| 14        | 13 | 40 | 0  | 44        | 31 | 52 | 36 | 74        | 26 | 62 | 16 |
| 15        | 14 | 40 | 0  | 45        | 32 | 54 | 37 | 75        | 27 | 63 | 17 |
| 16        | 15 | 40 | 0  | 46        | 33 | 56 | 38 | 76        | 28 | 64 | 17 |
| 17        | 16 | 40 | 0  | 47        | 34 | 58 | 39 | 77        | 29 | 65 | 18 |
| 18        | 17 | 40 | 0  | 48        | 35 | 60 | 40 | 78        | 30 | 66 | 18 |
| 19        | 18 | 40 | 0  | 49        | 36 | 62 | 41 | 79        | 31 | 67 | 19 |
| 20        | 19 | 40 | 0  | 50        | 37 | 64 | 42 | 80        | 32 | 68 | 19 |
| 21        | 20 | 40 | 0  | 51        | 38 | 66 | 43 | 81        | 33 | 69 | 20 |
| 22        | 21 | 40 | 0  | 52        | 39 | 68 | 44 | 82        | 34 | 70 | 20 |
| 23        | 22 | 40 | 0  | 53        | 40 | 70 | 45 | 83        | 35 | 71 | 21 |
| 24        | 23 | 40 | 0  | 54        | 41 | 72 | 46 | 84        | 36 | 72 | 21 |
| 25        | 24 | 40 | 0  | 55        | 42 | 74 | 47 | 85        | 37 | 73 | 22 |
| 26        | 25 | 40 | 0  | 56        | 43 | 76 | 48 | 86        | 38 | 74 | 22 |
| 27        | 26 | 40 | 0  | 57        | 44 | 78 | 49 | 87        | 39 | 75 | 23 |
| 28        | 27 | 40 | 0  | 58        | 45 | 80 | 50 | 88        | 40 | 76 | 23 |
| 29        | 28 | 40 | 0  | 59        | 46 | 82 | 51 | 89        | 41 | 77 | 24 |
| 30        | 29 | 40 | 0  | 60        | 47 | 84 | 52 | 90        | 42 | 78 | 24 |



| ARCUS     |    |    |    |       | ARCUS     |    |    |    |       | ARCUS     |    |    |    |       |
|-----------|----|----|----|-------|-----------|----|----|----|-------|-----------|----|----|----|-------|
| Arcuales  |    |    |    |       | Arcuales  |    |    |    |       | Arcuales  |    |    |    |       |
| Defectio. |    |    |    |       | Defectio. |    |    |    |       | Defectio. |    |    |    |       |
| g         | m  | mi | fa | mi fa | g         | m  | mi | fa | mi fa | g         | m  | mi | fa | mi fa |
| 1         | 0  | 41 | 41 | 0 45  | 31        | 20 | 57 | 49 | 23 38 | 61        | 37 | 34 | 49 | 47 22 |
| 2         | 1  | 23 | 21 | 1 30  | 32        | 21 | 35 | 58 | 24 25 | 62        | 37 | 49 | 55 | 48 6  |
| 3         | 2  | 5  | 1  | 2 14  | 33        | 22 | 13 | 51 | 25 13 | 63        | 38 | 14 | 21 | 48 49 |
| 4         | 2  | 46 | 39 | 2 59  | 34        | 22 | 51 | 28 | 26 1  | 64        | 38 | 38 | 6  | 49 32 |
| 5         | 3  | 28 | 16 | 3 44  | 35        | 23 | 28 | 51 | 26 47 | 65        | 39 | 1  | 7  | 50 14 |
| 6         | 4  | 9  | 50 | 4 29  | 36        | 24 | 5  | 54 | 27 37 | 66        | 39 | 23 | 25 | 50 55 |
| 7         | 4  | 51 | 23 | 5 14  | 37        | 24 | 42 | 44 | 28 23 | 67        | 39 | 45 | 0  | 51 33 |
| 8         | 5  | 32 | 52 | 5 59  | 38        | 25 | 19 | 12 | 29 13 | 68        | 40 | 5  | 48 | 52 12 |
| 9         | 6  | 14 | 19 | 6 44  | 39        | 25 | 55 | 23 | 30 0  | 69        | 40 | 15 | 49 | 52 49 |
| 10        | 6  | 55 | 42 | 7 29  | 40        | 26 | 31 | 14 | 30 48 | 70        | 40 | 45 | 1  | 53 26 |
| 11        | 7  | 37 | 0  | 8 15  | 41        | 27 | 6  | 44 | 31 37 | 71        | 41 | 3  | 26 | 54 2  |
| 12        | 8  | 18 | 15 | 8 59  | 42        | 27 | 41 | 54 | 32 25 | 72        | 41 | 21 | 1  | 54 35 |
| 13        | 8  | 50 | 24 | 9 45  | 43        | 28 | 16 | 42 | 33 13 | 73        | 41 | 37 | 44 | 55 10 |
| 14        | 9  | 40 | 28 | 10 30 | 44        | 28 | 51 | 7  | 34 3  | 74        | 41 | 51 | 36 | 55 41 |
| 15        | 10 | 21 | 27 | 11 15 | 45        | 29 | 25 | 10 | 34 50 | 75        | 42 | 8  | 36 | 56 11 |
| 16        | 11 | 2  | 19 | 12 2  | 46        | 29 | 58 | 48 | 35 38 | 76        | 42 | 22 | 41 | 56 40 |
| 17        | 11 | 43 | 5  | 12 48 | 47        | 30 | 32 | 0  | 36 27 | 77        | 42 | 35 | 55 | 57 4  |
| 18        | 12 | 23 | 45 | 13 32 | 48        | 31 | 4  | 47 | 37 16 | 78        | 42 | 48 | 11 | 57 30 |
| 19        | 13 | 4  | 16 | 14 19 | 49        | 31 | 37 | 7  | 38 4  | 79        | 42 | 50 | 31 | 57 51 |
| 20        | 13 | 44 | 39 | 15 5  | 50        | 32 | 9  | 0  | 38 51 | 80        | 43 | 9  | 55 | 58 15 |
| 21        | 14 | 24 | 54 | 15 51 | 51        | 32 | 40 | 24 | 39 40 | 81        | 43 | 19 | 22 | 58 34 |
| 22        | 15 | 5  | 0  | 16 37 | 52        | 33 | 30 | 56 | 40 27 | 82        | 43 | 27 | 50 | 58 52 |
| 23        | 15 | 44 | 57 | 17 21 | 53        | 33 | 41 | 44 | 41 14 | 83        | 43 | 35 | 20 | 59 8  |
| 24        | 16 | 24 | 43 | 18 10 | 54        | 34 | 11 | 37 | 42 2  | 84        | 43 | 41 | 52 | 59 21 |
| 25        | 17 | 4  | 20 | 18 56 | 55        | 34 | 40 | 59 | 42 49 | 85        | 43 | 47 | 13 | 59 33 |
| 26        | 17 | 43 | 46 | 19 42 | 56        | 35 | 9  | 45 | 43 35 | 86        | 43 | 51 | 55 | 59 42 |
| 27        | 18 | 23 | 0  | 20 28 | 57        | 35 | 37 | 58 | 44 23 | 87        | 43 | 55 | 37 | 59 50 |
| 28        | 19 | 2  | 1  | 21 17 | 58        | 36 | 5  | 16 | 45 9  | 88        | 43 | 57 | 59 | 59 54 |
| 29        | 19 | 40 | 51 | 22 4  | 59        | 36 | 32 | 17 | 45 54 | 89        | 43 | 59 | 30 | 59 58 |
| 30        | 20 | 18 | 22 | 22 50 | 60        | 36 | 59 | 2  | 46 38 | 90        | 44 | 0  | 0  | 0 0   |

| ARCUS    |    |    |    |       | ARCUS    |    |    |    |       | ARCUS    |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| Defectus |    |    |    |       | Defectus |    |    |    |       | Defectus |    |    |    |       |
| Arcus    |    |    |    |       | Arcus    |    |    |    |       | Arcus    |    |    |    |       |
| Defectus | h  | m  | fa | Rate  | Defectus | h  | m  | fa | Rate  | Defectus | h  | m  | fa | Rate  |
| 1        | 0  | 42 | 26 | 0 44  | 31       | 21 | 21 | 27 | 23 18 | 61       | 38 | 12 | 11 | 47 3  |
| 2        | 1  | 24 | 31 | 1 28  | 32       | 22 | 0  | 21 | 24 6  | 62       | 38 | 25 | 1  | 47 47 |
| 3        | 2  | 7  | 15 | 2 12  | 33       | 22 | 39 | 4  | 24 51 | 63       | 39 | 1  | 10 | 48 31 |
| 4        | 2  | 49 | 38 | 2 57  | 34       | 23 | 17 | 29 | 25 39 | 64       | 39 | 27 | 38 | 49 14 |
| 5        | 3  | 32 | 0  | 3 42  | 35       | 23 | 55 | 38 | 26 27 | 65       | 39 | 51 | 21 | 49 57 |
| 6        | 4  | 14 | 19 | 4 15  | 36       | 24 | 33 | 31 | 27 15 | 66       | 40 | 14 | 20 | 50 18 |
| 7        | 4  | 56 | 37 | 5 8   | 37       | 25 | 11 | 7  | 28 2  | 67       | 40 | 36 | 11 | 51 19 |
| 8        | 5  | 48 | 51 | 5 51  | 38       | 25 | 48 | 25 | 28 49 | 68       | 40 | 58 | 0  | 51 57 |
| 9        | 6  | 21 | 3  | 6 37  | 39       | 26 | 25 | 23 | 29 17 | 69       | 41 | 18 | 38 | 52 37 |
| 10       | 7  | 3  | 11 | 7 21  | 40       | 27 | 2  | 2  | 30 25 | 70       | 41 | 38 | 28 | 53 15 |
| 11       | 7  | 45 | 15 | 8 6   | 41       | 27 | 35 | 21 | 31 11 | 71       | 41 | 57 | 28 | 53 51 |
| 12       | 8  | 27 | 14 | 8 51  | 42       | 28 | 14 | 19 | 32 1  | 72       | 42 | 15 | 16 | 54 27 |
| 13       | 9  | 9  | 9  | 9 15  | 43       | 28 | 42 | 35 | 32 49 | 73       | 42 | 34 | 54 | 54 59 |
| 14       | 9  | 52 | 38 | 10 20 | 44       | 29 | 25 | 10 | 33 18 | 74       | 42 | 49 | 17 | 55 32 |
| 15       | 10 | 31 | 42 | 11 5  | 45       | 30 | 0  | 0  | 34 26 | 75       | 43 | 4  | 47 | 56 2  |
| 16       | 11 | 14 | 21 | 11 49 | 46       | 30 | 34 | 26 | 35 15 | 76       | 43 | 19 | 21 | 56 31 |
| 17       | 11 | 55 | 31 | 12 14 | 47       | 31 | 8  | 27 | 36 3  | 77       | 43 | 32 | 59 | 56 59 |
| 18       | 12 | 37 | 19 | 13 20 | 48       | 31 | 42 | 1  | 36 50 | 78       | 43 | 45 | 41 | 57 24 |
| 19       | 13 | 18 | 15 | 14 4  | 49       | 32 | 15 | 11 | 37 39 | 79       | 43 | 57 | 24 | 57 49 |
| 20       | 13 | 59 | 44 | 14 50 | 50       | 32 | 47 | 53 | 38 27 | 80       | 44 | 8  | 10 | 58 10 |
| 21       | 14 | 40 | 45 | 15 15 | 51       | 33 | 20 | 13 | 39 16 | 81       | 44 | 17 | 56 | 58 32 |
| 22       | 15 | 21 | 37 | 16 21 | 52       | 33 | 51 | 47 | 40 3  | 82       | 44 | 26 | 42 | 58 51 |
| 23       | 16 | 2  | 20 | 17 6  | 53       | 34 | 22 | 58 | 40 52 | 83       | 44 | 34 | 28 | 59 7  |
| 24       | 16 | 42 | 53 | 17 52 | 54       | 34 | 51 | 39 | 41 39 | 84       | 44 | 41 | 13 | 59 21 |
| 25       | 17 | 23 | 16 | 18 18 | 55       | 35 | 23 | 46 | 42 27 | 85       | 44 | 46 | 56 | 59 41 |
| 26       | 18 | 1  | 0  | 19 24 | 56       | 35 | 51 | 30 | 43 15 | 86       | 44 | 51 | 18 | 59 50 |
| 27       | 18 | 43 | 28 | 20 12 | 57       | 36 | 22 | 23 | 44 6  | 87       | 44 | 55 | 17 | 60 0  |
| 28       | 19 | 23 | 18 | 20 57 | 58       | 36 | 50 | 45 | 44 46 | 88       | 44 | 57 | 51 | 60 0  |
| 29       | 20 | 2  | 55 | 21 41 | 59       | 37 | 18 | 31 | 45 31 | 89       | 44 | 59 | 28 | 60 0  |
| 30       | 20 | 42 | 17 | 22 31 | 60       | 37 | 45 | 40 | 46 19 | 90       | 45 | 0  | 0  | 60 0  |



| ARCUS    |    |    |    |       | ARCUS    |    |    |    |       | ARCUS    |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| Defécit. |    |    |    |       | Defécit. |    |    |    |       | Defécit. |    |    |    |       |
| Arcules  |    |    |    |       | Arcules  |    |    |    |       | Arcules  |    |    |    |       |
| g        | m  | fa | m  | fa    | g        | m  | fa | m  | fa    | g        | m  | fa | m  | fa    |
| 1        | 0  | 43 | 10 | 0 43  | 31       | 21 | 44 | 45 | 22 55 | 61       | 30 | 50 | 14 | 46 45 |
| 2        | 1  | 26 | 19 | 8     | 32       | 22 | 24 | 29 | 23 40 | 62       | 30 | 53 | 48 | 47 30 |
| 3        | 2  | 9  | 27 | 8     | 33       | 21 | 1  | 55 | 24 29 | 63       | 30 | 51 | 43 | 48 13 |
| 4        | 2  | 51 | 35 | 5     | 34       | 21 | 41 | 8  | 25 16 | 64       | 40 | 16 | 52 | 48 57 |
| 5        | 3  | 35 | 40 | 4     | 35       | 24 | 22 | 5  | 26 3  | 65       | 40 | 41 | 18 | 49 40 |
| 6        | 4  | 18 | 44 | 1     | 36       | 25 | 0  | 46 | 26 50 | 66       | 41 | 4  | 28 | 50 21 |
| 7        | 5  | 1  | 45 | 5 4   | 37       | 25 | 38 | 23 | 27 37 | 67       | 41 | 27 | 31 | 51 4  |
| 8        | 5  | 44 | 41 | 5 47  | 38       | 26 | 17 | 14 | 28 25 | 68       | 41 | 49 | 57 | 51 46 |
| 9        | 6  | 27 | 40 | 6 10  | 39       | 26 | 37 | 27 | 29 11 | 69       | 42 | 11 | 15 | 52 25 |
| 10       | 7  | 10 | 32 | 7 14  | 40       | 27 | 32 | 27 | 30 1  | 70       | 42 | 31 | 41 | 53 2  |
| 11       | 7  | 51 | 21 | 7 57  | 41       | 28 | 9  | 34 | 30 49 | 71       | 42 | 51 | 19 | 53 40 |
| 12       | 8  | 36 | 5  | 8 41  | 42       | 28 | 46 | 20 | 31 36 | 72       | 43 | 10 | 3  | 54 15 |
| 13       | 9  | 18 | 44 | 9 25  | 43       | 29 | 22 | 44 | 32 26 | 73       | 43 | 27 | 53 | 54 50 |
| 14       | 10 | 1  | 18 | 10 9  | 44       | 29 | 58 | 48 | 33 12 | 74       | 43 | 44 | 49 | 55 23 |
| 15       | 10 | 41 | 47 | 10 51 | 45       | 30 | 34 | 26 | 34 1  | 75       | 44 | 0  | 49 | 55 54 |
| 16       | 11 | 26 | 10 | 11 37 | 46       | 31 | 9  | 41 | 34 49 | 76       | 44 | 15 | 52 | 56 25 |
| 17       | 12 | 8  | 27 | 12 22 | 47       | 31 | 44 | 30 | 35 38 | 77       | 44 | 29 | 58 | 56 54 |
| 18       | 12 | 50 | 37 | 12 6  | 48       | 32 | 18 | 51 | 36 28 | 78       | 44 | 43 | 5  | 57 21 |
| 19       | 13 | 32 | 39 | 13 50 | 49       | 32 | 51 | 50 | 37 16 | 79       | 44 | 55 | 13 | 57 46 |
| 20       | 14 | 14 | 34 | 14 34 | 50       | 33 | 26 | 20 | 38 4  | 80       | 45 | 6  | 20 | 58 9  |
| 21       | 14 | 56 | 20 | 15 20 | 51       | 33 | 33 | 0  | 38 52 | 81       | 45 | 16 | 28 | 58 28 |
| 22       | 15 | 37 | 50 | 16 4  | 52       | 34 | 11 | 50 | 39 40 | 82       | 45 | 25 | 31 | 58 46 |
| 23       | 16 | 19 | 26 | 16 50 | 53       | 35 | 3  | 50 | 40 28 | 83       | 45 | 31 | 35 | 59 3  |
| 24       | 17 | 0  | 43 | 17 35 | 54       | 35 | 35 | 18 | 41 17 | 84       | 45 | 40 | 34 | 59 18 |
| 25       | 17 | 41 | 54 | 18 20 | 55       | 36 | 6  | 11 | 42 4  | 85       | 45 | 46 | 29 | 59 31 |
| 26       | 18 | 22 | 52 | 19 5  | 56       | 36 | 36 | 35 | 42 51 | 86       | 45 | 51 | 21 | 59 41 |
| 27       | 19 | 3  | 40 | 19 51 | 57       | 37 | 6  | 21 | 43 18 | 87       | 45 | 55 | 7  | 59 50 |
| 28       | 19 | 44 | 15 | 20 38 | 58       | 37 | 15 | 31 | 44 25 | 88       | 45 | 57 | 51 | 59 55 |
| 29       | 20 | 24 | 38 | 21 23 | 59       | 38 | 4  | 4  | 45 12 | 89       | 45 | 59 | 28 | 59 58 |
| 30       | 21 | 4  | 48 | 22 9  | 60       | 38 | 31 | 50 | 45 58 | 90       | 46 | 0  | 0  | 60 0  |

| ARCUS                      |    |    |    |       | ARCUS                      |    |    |    |       | ARCUS                      |    |    |    |       |
|----------------------------|----|----|----|-------|----------------------------|----|----|----|-------|----------------------------|----|----|----|-------|
| Arcus                      |    |    |    |       | Arcus                      |    |    |    |       | Arcus                      |    |    |    |       |
| Late-<br>ralis             |    |    |    |       | Late-<br>ralis             |    |    |    |       | Late-<br>ralis             |    |    |    |       |
| Dif-<br>fer-<br>en-<br>tia |    |    |    |       | Dif-<br>fer-<br>en-<br>tia |    |    |    |       | Dif-<br>fer-<br>en-<br>tia |    |    |    |       |
| Dif-<br>fer-<br>en-<br>tia |    |    |    |       | Dif-<br>fer-<br>en-<br>tia |    |    |    |       | Dif-<br>fer-<br>en-<br>tia |    |    |    |       |
| 1                          | 0  | 43 | 51 | 0 43  | 11                         | 21 | 7  | 40 | 22 34 | 61                         | 89 | 95 | 59 | 46 23 |
| 2                          | 1  | 27 | 45 | 1 25  | 12                         | 22 | 48 | 15 | 23 20 | 62                         | 40 | 13 | 18 | 47 9  |
| 3                          | 2  | 11 | 37 | 2 7   | 13                         | 23 | 28 | 24 | 24 6  | 63                         | 40 | 19 | 56 | 47 53 |
| 4                          | 2  | 55 | 28 | 2 49  | 14                         | 24 | 39 | 44 | 24 52 | 64                         | 41 | 5  | 47 | 48 39 |
| 5                          | 3  | 39 | 17 | 3 32  | 15                         | 24 | 48 | 8  | 25 40 | 65                         | 41 | 30 | 58 | 49 23 |
| 6                          | 4  | 21 | 4  | 4 15  | 16                         | 25 | 17 | 36 | 26 26 | 66                         | 41 | 55 | 21 | 50 6  |
| 7                          | 5  | 6  | 49 | 4 57  | 17                         | 26 | 6  | 46 | 27 13 | 67                         | 42 | 18 | 56 | 50 49 |
| 8                          | 5  | 50 | 31 | 5 40  | 18                         | 26 | 45 | 39 | 28 0  | 68                         | 42 | 41 | 43 | 51 30 |
| 9                          | 6  | 14 | 10 | 6 23  | 19                         | 27 | 24 | 13 | 28 48 | 69                         | 43 | 3  | 40 | 52 10 |
| 10                         | 7  | 17 | 46 | 7 6   | 20                         | 28 | 2  | 28 | 29 35 | 70                         | 43 | 24 | 46 | 52 42 |
| 11                         | 8  | 1  | 18 | 7 49  | 21                         | 28 | 40 | 23 | 30 24 | 71                         | 43 | 44 | 59 | 53 27 |
| 12                         | 8  | 44 | 46 | 8 32  | 22                         | 29 | 17 | 56 | 31 12 | 72                         | 44 | 4  | 18 | 54 4  |
| 13                         | 9  | 29 | 9  | 9 15  | 23                         | 29 | 55 | 10 | 31 59 | 73                         | 44 | 22 | 43 | 54 40 |
| 14                         | 10 | 11 | 27 | 9 58  | 24                         | 30 | 42 | 0  | 32 47 | 74                         | 44 | 40 | 12 | 55 14 |
| 15                         | 10 | 54 | 40 | 10 41 | 25                         | 31 | 8  | 27 | 33 36 | 75                         | 44 | 56 | 43 | 55 47 |
| 16                         | 11 | 17 | 47 | 11 25 | 26                         | 31 | 44 | 30 | 34 21 | 76                         | 45 | 12 | 17 | 56 18 |
| 17                         | 12 | 20 | 49 | 12 8  | 27                         | 32 | 20 | 8  | 35 11 | 77                         | 45 | 26 | 52 | 56 46 |
| 18                         | 13 | 3  | 43 | 12 51 | 28                         | 32 | 55 | 21 | 36 1  | 78                         | 45 | 40 | 26 | 57 13 |
| 19                         | 13 | 46 | 29 | 13 36 | 29                         | 33 | 34 | 17 | 36 49 | 79                         | 45 | 52 | 59 | 57 18 |
| 20                         | 14 | 19 | 8  | 14 20 | 30                         | 34 | 4  | 24 | 37 37 | 80                         | 46 | 4  | 29 | 58 2  |
| 21                         | 15 | 11 | 49 | 15 3  | 31                         | 34 | 18 | 12 | 38 25 | 81                         | 46 | 14 | 56 | 58 24 |
| 22                         | 15 | 54 | 2  | 15 48 | 32                         | 35 | 11 | 30 | 39 14 | 82                         | 46 | 24 | 19 | 58 45 |
| 23                         | 16 | 16 | 16 | 16 32 | 33                         | 35 | 44 | 18 | 40 4  | 83                         | 46 | 32 | 38 | 59 3  |
| 24                         | 17 | 18 | 20 | 17 17 | 34                         | 36 | 16 | 15 | 40 51 | 84                         | 46 | 39 | 52 | 59 17 |
| 25                         | 18 | 0  | 14 | 18 2  | 35                         | 36 | 48 | 17 | 41 40 | 85                         | 46 | 46 | 0  | 59 30 |
| 26                         | 18 | 41 | 57 | 18 48 | 36                         | 37 | 19 | 26 | 42 27 | 86                         | 46 | 51 | 2  | 59 40 |
| 27                         | 19 | 23 | 31 | 19 31 | 37                         | 37 | 29 | 56 | 43 16 | 87                         | 46 | 54 | 57 | 59 49 |
| 28                         | 20 | 4  | 51 | 20 16 | 38                         | 38 | 19 | 56 | 44 3  | 88                         | 46 | 57 | 45 | 59 54 |
| 29                         | 20 | 46 | 1  | 21 2  | 39                         | 38 | 49 | 16 | 44 50 | 89                         | 46 | 59 | 26 | 59 58 |
| 30                         | 21 | 26 | 57 | 21 48 | 40                         | 39 | 17 | 57 | 45 37 | 90                         | 47 | 0  | 0  | 60 0  |

| ARCUS     |    |    |    |       | ARCUS     |    |    |    |       | ARCUS     |    |    |    |       |
|-----------|----|----|----|-------|-----------|----|----|----|-------|-----------|----|----|----|-------|
| Defectio. |    |    |    |       | Defectio. |    |    |    |       | Defectio. |    |    |    |       |
| Arcus     |    |    |    |       | Arcus     |    |    |    |       | Arcus     |    |    |    |       |
| Defectio. | g  | m  | fa | mi    | Defectio. | g  | m  | fa | mi    | Defectio. | g  | m  | fa | mi    |
| 1         | 0  | 44 | 35 | 0 42  | 31        | 22 | 30 | 14 | 22 12 | 61        | 40 | 32 | 22 | 46 1  |
| 2         | 1  | 29 | 10 | 1 28  | 32        | 23 | 11 | 29 | 22 58 | 62        | 41 | 0  | 27 | 46 48 |
| 3         | 2  | 13 | 44 | 2 5   | 33        | 23 | 52 | 30 | 23 41 | 63        | 41 | 27 | 49 | 47 14 |
| 4         | 2  | 58 | 17 | 2 47  | 34        | 24 | 33 | 16 | 24 30 | 64        | 41 | 54 | 28 | 48 20 |
| 5         | 3  | 42 | 49 | 3 28  | 35        | 25 | 13 | 48 | 25 14 | 65        | 42 | 20 | 25 | 49 4  |
| 6         | 4  | 27 | 19 | 4 10  | 36        | 25 | 54 | 2  | 26 1  | 66        | 42 | 45 | 27 | 49 48 |
| 7         | 5  | 11 | 46 | 4 52  | 37        | 26 | 33 | 59 | 26 48 | 67        | 43 | 9  | 45 | 50 11 |
| 8         | 5  | 56 | 11 | 5 14  | 38        | 27 | 13 | 39 | 27 35 | 68        | 43 | 33 | 13 | 51 13 |
| 9         | 6  | 40 | 33 | 6 16  | 39        | 27 | 51 | 2  | 28 22 | 69        | 44 | 55 | 50 | 51 54 |
| 10        | 7  | 24 | 52 | 6 58  | 40        | 28 | 12 | 3  | 29 10 | 70        | 44 | 17 | 35 | 52 35 |
| 11        | 8  | 9  | 7  | 7 39  | 41        | 29 | 10 | 47 | 29 56 | 71        | 44 | 38 | 26 | 53 15 |
| 12        | 8  | 53 | 18 | 8 22  | 42        | 29 | 49 | 8  | 30 45 | 72        | 44 | 58 | 22 | 54 53 |
| 13        | 9  | 37 | 24 | 9 4   | 43        | 30 | 27 | 9  | 31 32 | 73        | 45 | 17 | 23 | 54 29 |
| 14        | 10 | 21 | 25 | 9 47  | 44        | 31 | 4  | 47 | 32 20 | 74        | 45 | 35 | 26 | 55 4  |
| 15        | 11 | 5  | 21 | 10 29 | 45        | 31 | 42 | 3  | 33 8  | 75        | 45 | 52 | 30 | 55 17 |
| 16        | 11 | 49 | 12 | 11 13 | 46        | 32 | 18 | 51 | 33 57 | 76        | 46 | 8  | 33 | 56 8  |
| 17        | 12 | 32 | 57 | 11 55 | 47        | 32 | 55 | 21 | 34 45 | 77        | 46 | 23 | 38 | 56 39 |
| 18        | 13 | 16 | 14 | 12 38 | 48        | 33 | 31 | 22 | 35 33 | 78        | 46 | 37 | 39 | 57 8  |
| 19        | 14 | 0  | 5  | 13 21 | 49        | 34 | 6  | 55 | 36 22 | 79        | 46 | 50 | 37 | 57 35 |
| 20        | 14 | 43 | 28 | 14 4  | 50        | 34 | 24 | 36 | 37 11 | 80        | 47 | 2  | 41 | 58 0  |
| 21        | 15 | 26 | 43 | 14 48 | 51        | 35 | 16 | 37 | 38 0  | 81        | 47 | 13 | 20 | 58 23 |
| 22        | 16 | 9  | 50 | 15 31 | 52        | 35 | 50 | 44 | 38 50 | 82        | 47 | 23 | 4  | 58 42 |
| 23        | 16 | 52 | 48 | 16 15 | 53        | 36 | 24 | 22 | 39 37 | 83        | 47 | 31 | 41 | 59 0  |
| 24        | 17 | 35 | 37 | 16 58 | 54        | 36 | 57 | 26 | 40 25 | 84        | 47 | 39 | 9  | 59 16 |
| 25        | 18 | 18 | 16 | 17 41 | 55        | 37 | 29 | 57 | 41 14 | 85        | 47 | 45 | 30 | 59 30 |
| 26        | 19 | 0  | 45 | 18 27 | 56        | 38 | 1  | 51 | 42 3  | 86        | 47 | 50 | 42 | 59 41 |
| 27        | 19 | 43 | 2  | 19 12 | 57        | 38 | 33 | 15 | 42 51 | 87        | 47 | 54 | 46 | 59 49 |
| 28        | 20 | 25 | 9  | 19 56 | 58        | 39 | 3  | 59 | 43 40 | 88        | 47 | 57 | 39 | 59 56 |
| 29        | 21 | 7  | 3  | 20 42 | 59        | 39 | 29 | 28 | 44 27 | 89        | 47 | 59 | 24 | 60 0  |
| 30        | 21 | 48 | 45 | 21 27 | 60        | 40 | 3  | 34 | 45 14 | 90        | 48 | 0  | 0  | 60 0  |

| ARCUS    |    |    |    | Diff<br>ferē<br>tia | ARCUS    |    |    |    | Diff<br>ferē<br>tia | ARCUS    |    |    |    | Diff<br>ferē<br>tia |
|----------|----|----|----|---------------------|----------|----|----|----|---------------------|----------|----|----|----|---------------------|
| Arcus    |    |    |    | Late<br>ratio       | Arcus    |    |    |    | Late<br>ratio       | Arcus    |    |    |    | Late<br>ratio       |
| Defectus | g  | m  | fa |                     | Defectus | g  | m  | fa |                     | Defectus | g  | m  | fa |                     |
| 1        | 0  | 45 | 17 |                     | 31       | 22 | 52 | 26 |                     | 61       | 41 | 18 | 23 |                     |
|          |    | 45 | 17 | 0 41                |          |    | 42 | 1  | 21 49               |          |    | 28 | 52 | 45 38               |
| 2        | 1  | 30 | 34 |                     | 32       | 23 | 34 | 27 |                     | 62       | 41 | 47 | 15 |                     |
|          |    | 45 | 15 | 1 21                |          |    | 41 | 46 | 22 33               |          |    | 28 | 8  | 46 26               |
| 3        | 2  | 15 | 49 |                     | 33       | 24 | 16 | 13 |                     | 63       | 42 | 15 | 23 |                     |
|          |    | 45 | 15 | 2 3                 |          |    | 41 | 31 | 23 20               |          |    | 27 | 25 | 47 13               |
| 4        | 3  | 1  | 4  |                     | 34       | 24 | 59 | 46 |                     | 64       | 42 | 42 | 37 |                     |
|          |    | 45 | 13 | 3 41                |          |    | 41 | 16 | 24 5                |          |    | 26 | 37 | 47 58               |
| 5        | 3  | 46 | 17 |                     | 35       | 25 | 39 | 2  |                     | 65       | 43 | 9  | 25 |                     |
|          |    | 45 | 12 | 3 25                |          |    | 41 | 1  | 24 51               |          |    | 25 | 50 | 48 44               |
| 6        | 4  | 31 | 29 |                     | 36       | 26 | 20 | 3  |                     | 66       | 43 | 15 | 15 |                     |
|          |    | 45 | 9  | 4 5                 |          |    | 40 | 44 | 25 37               |          |    | 25 | 1  | 49 39               |
| 7        | 5  | 16 | 32 |                     | 37       | 27 | 0  | 47 |                     | 67       | 44 | 0  | 16 |                     |
|          |    | 45 | 7  | 4 46                |          |    | 40 | 27 | 26 23               |          |    | 24 | 10 | 50 11               |
| 8        | 6  | 1  | 45 |                     | 38       | 27 | 41 | 14 |                     | 68       | 44 | 24 | 26 |                     |
|          |    | 45 | 4  | 5 27                |          |    | 40 | 9  | 27 9                |          |    | 23 | 18 | 50 56               |
| 9        | 6  | 46 | 49 |                     | 39       | 28 | 21 | 23 |                     | 69       | 44 | 47 | 44 |                     |
|          |    | 45 | 1  | 6 8                 |          |    | 39 | 50 | 27 55               |          |    | 22 | 26 | 51 40               |
| 10       | 7  | 31 | 50 |                     | 40       | 29 | 1  | 13 |                     | 70       | 45 | 10 | 10 |                     |
|          |    | 44 | 56 | 6 49                |          |    | 39 | 30 | 28 41               |          |    | 31 | 31 | 52 21               |
| 11       | 8  | 16 | 46 |                     | 41       | 29 | 40 | 43 |                     | 71       | 45 | 31 | 41 |                     |
|          |    | 44 | 54 | 7 32                |          |    | 39 | 10 | 29 30               |          |    | 20 | 34 | 53 0                |
| 12       | 9  | 1  | 40 |                     | 42       | 30 | 19 | 31 |                     | 72       | 45 | 52 | 15 |                     |
|          |    | 44 | 48 | 8 12                |          |    | 38 | 48 | 30 17               |          |    | 19 | 37 | 53 39               |
| 13       | 9  | 46 | 28 |                     | 43       | 30 | 28 | 41 |                     | 73       | 46 | 11 | 52 |                     |
|          |    | 44 | 44 | 8 54                |          |    | 38 | 26 | 31 5                |          |    | 18 | 38 | 54 17               |
| 14       | 10 | 31 | 12 |                     | 44       | 31 | 17 | 7  |                     | 74       | 46 | 30 | 30 |                     |
|          |    | 44 | 38 | 9 15                |          |    | 38 | 4  | 31 51               |          |    | 17 | 37 | 54 53               |
| 15       | 11 | 15 | 30 |                     | 45       | 32 | 15 | 11 |                     | 75       | 46 | 48 | 7  |                     |
|          |    | 44 | 35 | 10 18               |          |    | 37 | 39 | 32 42               |          |    | 16 | 36 | 55 28               |
| 16       | 12 | 0  | 25 |                     | 46       | 32 | 52 | 30 |                     | 76       | 47 | 4  | 43 |                     |
|          |    | 44 | 27 | 10 59               |          |    | 37 | 16 | 33 30               |          |    | 15 | 34 | 56 1                |
| 17       | 12 | 44 | 52 |                     | 47       | 33 | 40 | 6  |                     | 77       | 47 | 20 | 17 |                     |
|          |    | 44 | 20 | 11 41               |          |    | 36 | 49 | 34 12               |          |    | 14 | 30 | 56 33               |
| 18       | 13 | 29 | 12 |                     | 48       | 34 | 6  | 59 |                     | 78       | 47 | 34 | 47 |                     |
|          |    | 44 | 14 | 12 23               |          |    | 36 | 23 | 35 4                |          |    | 13 | 25 | 57 2                |
| 19       | 14 | 13 | 26 |                     | 49       | 34 | 41 | 17 |                     | 79       | 47 | 49 | 12 |                     |
|          |    | 44 | 6  | 13 5                |          |    | 35 | 55 | 35 55               |          |    | 12 | 19 | 57 29               |
| 20       | 14 | 57 | 32 |                     | 50       | 35 | 19 | 42 |                     | 80       | 48 | 0  | 34 |                     |
|          |    | 43 | 59 | 13 48               |          |    | 35 | 25 | 36 42               |          |    | 11 | 12 | 57 56               |
| 21       | 15 | 41 | 41 |                     | 51       | 35 | 54 | 37 |                     | 81       | 48 | 11 | 44 |                     |
|          |    | 43 | 50 | 14 11               |          |    | 34 | 57 | 37 33               |          |    | 10 | 3  | 58 17               |
| 22       | 16 | 25 | 41 |                     | 52       | 36 | 29 | 34 |                     | 82       | 48 | 21 | 46 |                     |
|          |    | 43 | 42 | 15 14               |          |    | 34 | 25 | 38 11               |          |    | 8  | 55 | 58 38               |
| 23       | 17 | 9  | 4  |                     | 53       | 37 | 3  | 50 |                     | 83       | 48 | 30 | 41 |                     |
|          |    | 43 | 32 | 15 56               |          |    | 33 | 52 | 39 10               |          |    | 7  | 44 | 58 56               |
| 24       | 17 | 52 | 35 |                     | 54       | 37 | 17 | 31 |                     | 84       | 48 | 39 | 25 |                     |
|          |    | 43 | 24 | 16 41               |          |    | 33 | 20 | 39 52               |          |    | 6  | 35 | 59 11               |
| 25       | 18 | 40 | 50 |                     | 55       | 38 | 11 | 31 |                     | 85       | 48 | 48 | 0  |                     |
|          |    | 43 | 11 | 17 23               |          |    | 32 | 45 | 40 42               |          |    | 5  | 23 | 59 27               |
| 26       | 19 | 49 | 42 |                     | 56       | 38 | 41 | 56 |                     | 86       | 48 | 50 | 23 |                     |
|          |    | 43 | 2  | 18 8                |          |    | 42 | 10 | 41 38               |          |    | 4  | 12 | 59 39               |
| 27       | 20 | 2  | 46 |                     | 57       | 39 | 16 | 0  |                     | 87       | 48 | 54 | 35 |                     |
|          |    | 42 | 51 | 18 51               |          |    | 31 | 33 | 42 26               |          |    | 3  | 0  | 59 48               |
| 28       | 20 | 45 | 9  |                     | 58       | 39 | 47 | 39 |                     | 88       | 48 | 57 | 35 |                     |
|          |    | 42 | 40 | 19 35               |          |    | 30 | 54 | 43 14               |          |    | 1  | 49 | 59 55               |
| 29       | 21 | 27 | 45 |                     | 59       | 40 | 18 | 33 |                     | 89       | 48 | 59 | 24 |                     |
|          |    | 42 | 27 | 20 19               |          |    | 30 | 15 | 44 2                |          |    | 0  | 36 | 59 58               |
| 30       | 22 | 10 | 42 |                     | 60       | 40 | 48 | 48 |                     | 90       | 49 | 0  | 0  |                     |
|          |    | 42 | 16 | 21 4                |          |    | 39 | 15 | 44 50               |          |    | 0  | 0  | 60 0                |

| ARCUS      |    |    |    |       | ARCUS      |    |    |    |       | ARCUS      |    |    |    |       |
|------------|----|----|----|-------|------------|----|----|----|-------|------------|----|----|----|-------|
| Arcus      |    |    |    |       | Arcus      |    |    |    |       | Arcus      |    |    |    |       |
| Declitico. | g  | m  | fa | m fa  | Declitico. | g  | m  | fa | m fa  | Declitico. | g  | m  | fa | m fa  |
| 1          | 0  | 45 | 58 | 0 40  | 31         | 23 | 14 | 15 | 21 25 | 61         | 42 | 4  | 1  | 45 14 |
| 2          | 1  | 45 | 57 | 1 20  | 32         | 23 | 57 | 0  | 22 10 | 62         | 42 | 13 | 41 | 46 2  |
| 3          | 2  | 45 | 55 | 2 0   | 33         | 24 | 39 | 33 | 22 54 | 63         | 41 | 2  | 36 | 46 49 |
| 4          | 3  | 45 | 55 | 2 40  | 34         | 25 | 21 | 51 | 23 19 | 64         | 41 | 30 | 46 | 47 17 |
| 5          | 3  | 45 | 52 | 3 20  | 35         | 26 | 4  | 53 | 24 24 | 65         | 41 | 58 | 9  | 48 23 |
| 6          | 4  | 45 | 50 | 4 0   | 36         | 26 | 45 | 40 | 25 10 | 66         | 44 | 24 | 44 | 49 9  |
| 7          | 5  | 45 | 48 | 4 41  | 37         | 27 | 37 | 19 | 25 56 | 67         | 44 | 50 | 29 | 49 54 |
| 8          | 6  | 45 | 45 | 5 21  | 38         | 28 | 8  | 23 | 26 42 | 68         | 43 | 15 | 22 | 50 40 |
| 9          | 6  | 45 | 42 | 6 1   | 39         | 28 | 49 | 18 | 27 30 | 69         | 43 | 19 | 24 | 51 22 |
| 10         | 7  | 45 | 39 | 6 41  | 40         | 29 | 29 | 56 | 28 15 | 70         | 46 | 2  | 31 | 52 4  |
| 11         | 8  | 45 | 34 | 7 21  | 41         | 30 | 10 | 13 | 29 2  | 71         | 46 | 24 | 41 | 52 46 |
| 12         | 9  | 45 | 30 | 8 2   | 42         | 30 | 50 | 10 | 29 49 | 72         | 46 | 45 | 54 | 53 26 |
| 13         | 9  | 45 | 22 | 8 43  | 43         | 31 | 29 | 46 | 30 36 | 73         | 47 | 6  | 59 | 54 5  |
| 14         | 10 | 45 | 21 | 9 25  | 44         | 32 | 9  | 0  | 31 24 | 74         | 47 | 25 | 23 | 54 42 |
| 15         | 11 | 45 | 16 | 10 5  | 45         | 32 | 47 | 53 | 32 11 | 75         | 47 | 43 | 35 | 55 19 |
| 16         | 12 | 45 | 9  | 10 45 | 46         | 33 | 26 | 20 | 33 0  | 76         | 48 | 0  | 44 | 55 52 |
| 17         | 12 | 45 | 33 | 11 27 | 47         | 34 | 4  | 24 | 33 49 | 77         | 48 | 16 | 50 | 56 24 |
| 18         | 13 | 44 | 56 | 12 9  | 48         | 34 | 42 | 1  | 34 36 | 78         | 48 | 31 | 49 | 56 54 |
| 19         | 14 | 44 | 49 | 12 50 | 49         | 35 | 19 | 12 | 35 25 | 79         | 48 | 45 | 41 | 57 23 |
| 20         | 15 | 44 | 42 | 13 12 | 50         | 35 | 55 | 54 | 36 16 | 80         | 48 | 58 | 32 | 57 49 |
| 21         | 15 | 44 | 33 | 14 13 | 51         | 36 | 31 | 10 | 37 4  | 81         | 49 | 10 | 24 | 58 13 |
| 22         | 16 | 44 | 24 | 14 56 | 52         | 37 | 7  | 55 | 37 58 | 82         | 49 | 20 | 24 | 58 34 |
| 23         | 17 | 44 | 17 | 15 18 | 53         | 37 | 43 | 9  | 38 41 | 83         | 49 | 29 | 17 | 58 54 |
| 24         | 18 | 44 | 6  | 16 20 | 54         | 38 | 17 | 50 | 39 12 | 84         | 49 | 37 | 18 | 59 13 |
| 25         | 18 | 43 | 58 | 17 4  | 55         | 38 | 51 | 58 | 40 22 | 85         | 49 | 46 | 27 | 59 28 |
| 26         | 19 | 43 | 45 | 17 46 | 56         | 39 | 25 | 34 | 41 8  | 86         | 49 | 50 | 2  | 59 40 |
| 27         | 20 | 43 | 35 | 18 30 | 57         | 39 | 58 | 32 | 41 59 | 87         | 49 | 54 | 23 | 59 49 |
| 28         | 21 | 43 | 24 | 19 14 | 58         | 40 | 31 | 42 | 42 48 | 88         | 49 | 57 | 30 | 59 55 |
| 29         | 21 | 43 | 12 | 19 57 | 59         | 41 | 3  | 3  | 43 17 | 89         | 49 | 59 | 32 | 60 0  |
| 30         | 22 | 42 | 59 | 20 40 | 60         | 41 | 33 | 18 | 44 26 | 90         | 50 | 0  | 0  | 60 0  |

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| ARCUS       |    |    |    |       | ARCUS       |    |    |    |       | ARCUS       |    |    |    |       |
|-------------|----|----|----|-------|-------------|----|----|----|-------|-------------|----|----|----|-------|
| Deficdites. |    |    |    |       | Deficdites. |    |    |    |       | Deficdites. |    |    |    |       |
| Arcules     |    |    |    |       | Arcules     |    |    |    |       | Arcules     |    |    |    |       |
| g           | m  | fa | m  | fa    | g           | m  | fa | m  | fa    | g           | m  | fa | m  | fa    |
| 1           | 0  | 47 | 12 | 0 18  | 31          | 13 | 56 | 41 | 20 17 | 61          | 43 | 34 | 3  | 44 22 |
| 2           | 1  | 34 | 33 | 1 17  | 32          | 24 | 40 | 56 | 21 19 | 62          | 44 | 5  | 20 | 45 11 |
| 3           | 2  | 21 | 49 | 2 55  | 33          | 25 | 24 | 57 | 22 3  | 63          | 44 | 35 | 51 | 46 2  |
| 4           | 3  | 9  | 4  | 3 31  | 34          | 26 | 8  | 44 | 23 47 | 64          | 45 | 5  | 36 | 46 50 |
| 5           | 3  | 56 | 17 | 3 12  | 35          | 26 | 52 | 16 | 23 31 | 65          | 45 | 34 | 34 | 47 18 |
| 6           | 4  | 43 | 29 | 3 50  | 36          | 27 | 43 | 1  | 24 16 | 66          | 46 | 2  | 42 | 48 25 |
| 7           | 5  | 30 | 39 | 4 28  | 37          | 28 | 18 | 34 | 25 1  | 67          | 46 | 29 | 58 | 49 13 |
| 8           | 6  | 17 | 47 | 5 6   | 38          | 29 | 42 | 28 | 25 46 | 68          | 46 | 56 | 21 | 50 59 |
| 9           | 7  | 4  | 51 | 5 46  | 39          | 29 | 43 | 48 | 26 31 | 69          | 47 | 21 | 50 | 50 46 |
| 10          | 7  | 51 | 53 | 6 24  | 40          | 30 | 25 | 57 | 27 18 | 70          | 47 | 46 | 22 | 51 31 |
| 11          | 8  | 38 | 52 | 7 2   | 41          | 31 | 7  | 48 | 28 2  | 71          | 48 | 9  | 57 | 52 14 |
| 12          | 9  | 25 | 46 | 7 42  | 42          | 31 | 49 | 19 | 28 50 | 72          | 48 | 32 | 22 | 52 55 |
| 13          | 10 | 12 | 37 | 8 21  | 43          | 32 | 30 | 29 | 29 38 | 73          | 48 | 54 | 5  | 53 36 |
| 14          | 10 | 59 | 24 | 9 0   | 44          | 33 | 11 | 20 | 30 24 | 74          | 49 | 14 | 35 | 54 15 |
| 15          | 11 | 46 | 5  | 9 41  | 45          | 33 | 51 | 47 | 31 11 | 75          | 49 | 33 | 59 | 54 54 |
| 16          | 12 | 32 | 42 | 10 19 | 46          | 34 | 17 | 50 | 32 0  | 76          | 49 | 52 | 18 | 55 31 |
| 17          | 13 | 19 | 13 | 10 58 | 47          | 35 | 11 | 30 | 32 48 | 77          | 50 | 9  | 28 | 56 7  |
| 18          | 14 | 5  | 18 | 11 18 | 48          | 35 | 50 | 44 | 33 38 | 78          | 50 | 25 | 29 | 56 40 |
| 19          | 14 | 51 | 56 | 12 18 | 49          | 36 | 29 | 44 | 34 25 | 79          | 50 | 40 | 20 | 57 9  |
| 20          | 15 | 38 | 3  | 12 58 | 50          | 37 | 7  | 55 | 35 14 | 80          | 50 | 53 | 50 | 57 36 |
| 21          | 16 | 24 | 12 | 13 39 | 51          | 37 | 45 | 47 | 36 3  | 81          | 51 | 4  | 22 | 58 2  |
| 22          | 17 | 10 | 9  | 14 20 | 52          | 38 | 23 | 11 | 36 52 | 82          | 51 | 17 | 31 | 58 27 |
| 23          | 17 | 55 | 58 | 15 2  | 53          | 39 | 0  | 1  | 37 44 | 83          | 51 | 27 | 24 | 58 49 |
| 24          | 18 | 41 | 38 | 15 42 | 54          | 39 | 36 | 25 | 38 32 | 84          | 51 | 36 | 0  | 59 7  |
| 25          | 19 | 27 | 10 | 16 23 | 55          | 40 | 12 | 12 | 39 22 | 85          | 51 | 43 | 18 | 59 23 |
| 26          | 20 | 13 | 32 | 17 4  | 56          | 40 | 49 | 25 | 40 11 | 86          | 51 | 49 | 18 | 59 35 |
| 27          | 20 | 57 | 44 | 17 46 | 57          | 41 | 22 | 3  | 41 2  | 87          | 51 | 53 | 59 | 59 45 |
| 28          | 21 | 42 | 45 | 18 18 | 58          | 41 | 56 | 1  | 41 54 | 88          | 51 | 32 | 19 | 59 54 |
| 29          | 22 | 27 | 35 | 19 11 | 59          | 42 | 28 | 23 | 42 42 | 89          | 51 | 50 | 20 | 59 58 |
| 30          | 23 | 12 | 14 | 19 54 | 60          | 43 | 0  | 8  | 43 31 | 90          | 52 | 0  | 0  | 60 0  |

| Defectio | ARCUS    |       |    |       | Differe-<br>tia<br>Late-<br>ralis | ARCUS    |       |    |       | Differe-<br>tia<br>Late-<br>ralis | ARCUS    |       |    |       | Differe-<br>tia<br>Late-<br>ralis |
|----------|----------|-------|----|-------|-----------------------------------|----------|-------|----|-------|-----------------------------------|----------|-------|----|-------|-----------------------------------|
|          | Defectio | Arcus |    |       |                                   | Defectio | Arcus |    |       |                                   | Defectio | Arcus |    |       |                                   |
| g        | g        | m     | fa | m fa  | g                                 | g        | m     | fa | m fa  | g                                 | g        | m     | fa | m fa  |                                   |
| 1        | 0        | 47    | 55 | 0 37  | 31                                | 24       | 17    | 18 | 20 12 | 61                                | 44       | 18    | 25 | 43 53 |                                   |
| 2        | 1        | 15    | 50 | 1 15  | 32                                | 25       | 2     | 15 | 20 55 | 62                                | 44       | 50    | 31 | 44 44 |                                   |
| 3        | 2        | 21    | 44 | 1 52  | 33                                | 25       | 47    | 0  | 21 37 | 63                                | 45       | 21    | 53 | 45 33 |                                   |
| 4        | 3        | 11    | 37 | 2 30  | 34                                | 26       | 31    | 31 | 22 20 | 64                                | 45       | 52    | 26 | 46 23 |                                   |
| 5        | 3        | 59    | 29 | 3 7   | 35                                | 27       | 15    | 47 | 23 4  | 65                                | 46       | 22    | 12 | 47 12 |                                   |
| 6        | 4        | 47    | 19 | 3 45  | 36                                | 27       | 59    | 49 | 23 48 | 66                                | 46       | 51    | 7  | 48 2  |                                   |
| 7        | 5        | 35    | 7  | 4 22  | 37                                | 28       | 41    | 35 | 24 31 | 67                                | 47       | 19    | 11 | 48 50 |                                   |
| 8        | 6        | 22    | 51 | 5 0   | 38                                | 29       | 27    | 6  | 25 17 | 68                                | 47       | 46    | 20 | 49 40 |                                   |
| 9        | 7        | 10    | 37 | 5 18  | 39                                | 30       | 10    | 19 | 26 2  | 69                                | 48       | 12    | 36 | 50 34 |                                   |
| 10       | 7        | 58    | 17 | 6 16  | 40                                | 30       | 53    | 15 | 26 47 | 70                                | 48       | 37    | 51 | 51 10 |                                   |
| 11       | 8        | 45    | 34 | 6 54  | 41                                | 31       | 35    | 51 | 27 34 | 71                                | 49       | 2     | 11 | 51 56 |                                   |
| 12       | 9        | 33    | 28 | 7 32  | 42                                | 32       | 18    | 9  | 28 21 | 72                                | 49       | 25    | 27 | 52 40 |                                   |
| 13       | 10       | 20    | 58 | 8 10  | 43                                | 33       | 0     | 7  | 29 6  | 73                                | 49       | 47    | 41 | 53 22 |                                   |
| 14       | 11       | 8     | 24 | 8 48  | 44                                | 33       | 41    | 44 | 29 53 | 74                                | 50       | 8     | 50 | 54 5  |                                   |
| 15       | 11       | 55    | 46 | 9 26  | 45                                | 34       | 22    | 58 | 30 41 | 75                                | 50       | 28    | 51 | 54 44 |                                   |
| 16       | 12       | 41    | 1  | 10 5  | 46                                | 35       | 3     | 50 | 31 28 | 76                                | 50       | 47    | 46 | 55 21 |                                   |
| 17       | 13       | 30    | 11 | 10 45 | 47                                | 35       | 44    | 18 | 32 17 | 77                                | 51       | 5     | 15 | 55 56 |                                   |
| 18       | 14       | 17    | 16 | 11 23 | 48                                | 36       | 24    | 22 | 33 4  | 78                                | 51       | 22    | 9  | 56 29 |                                   |
| 19       | 15       | 4     | 14 | 12 3  | 49                                | 37       | 3     | 59 | 33 52 | 79                                | 51       | 37    | 29 | 57 2  |                                   |
| 20       | 15       | 51    | 6  | 12 42 | 50                                | 37       | 41    | 9  | 34 41 | 80                                | 51       | 51    | 35 | 57 32 |                                   |
| 21       | 16       | 37    | 51 | 13 22 | 51                                | 38       | 21    | 50 | 35 31 | 81                                | 52       | 4     | 25 | 58 0  |                                   |
| 22       | 17       | 24    | 29 | 14 1  | 52                                | 39       | 0     | 3  | 36 22 | 82                                | 52       | 15    | 58 | 58 25 |                                   |
| 23       | 18       | 11    | 0  | 14 49 | 53                                | 39       | 37    | 47 | 37 10 | 83                                | 52       | 26    | 13 | 58 47 |                                   |
| 24       | 18       | 57    | 20 | 15 22 | 54                                | 40       | 14    | 57 | 38 0  | 84                                | 52       | 15    | 7  | 59 6  |                                   |
| 25       | 19       | 43    | 31 | 16 2  | 55                                | 40       | 51    | 34 | 38 50 | 85                                | 52       | 42    | 6  | 59 23 |                                   |
| 26       | 20       | 29    | 36 | 16 41 | 56                                | 41       | 27    | 36 | 39 41 | 86                                | 52       | 48    | 53 | 59 37 |                                   |
| 27       | 21       | 15    | 30 | 17 24 | 57                                | 42       | 3     | 4  | 40 32 | 87                                | 52       | 53    | 44 | 59 48 |                                   |
| 28       | 22       | 1     | 13 | 18 6  | 58                                | 42       | 17    | 55 | 41 21 | 88                                | 52       | 57    | 13 | 59 54 |                                   |
| 29       | 22       | 46    | 46 | 18 47 | 59                                | 43       | 12    | 55 | 42 12 | 89                                | 52       | 59    | 18 | 59 59 |                                   |
| 30       | 23       | 32    | 8  | 19 29 | 60                                | 43       | 45    | 36 | 43 3  | 90                                | 53       | 0     | 0  | 60 0  |                                   |

| Defectio. | ARCUS |    |    |          | Diff. fer. tia | Lateralis | Defectio. | ARCUS |    |    |       | Diff. fer. tia | Lateralis | Defectio. | ARCUS |    |    |      | Diff. fer. tia | Lateralis |
|-----------|-------|----|----|----------|----------------|-----------|-----------|-------|----|----|-------|----------------|-----------|-----------|-------|----|----|------|----------------|-----------|
|           | g     | m  | fa | m fa     |                |           |           | g     | m  | fa | m fa  |                |           |           | g     | m  | fa | m fa |                |           |
| 1         | 0     | 48 | 24 | 0 17     |                |           | 31        | 24    | 17 | 30 | 19 46 |                |           | 61        | 43    | 2  | 18 |      |                |           |
| 2         | 1     | 48 | 33 | 1 12     |                |           | 32        | 25    | 21 | 10 | 20 28 |                |           | 62        | 43    | 15 | 15 |      |                |           |
| 3         | 2     | 48 | 36 | 2 56     |                |           | 33        | 26    | 8  | 37 | 21 10 |                |           | 63        | 46    | 7  | 26 |      |                |           |
| 4         | 3     | 48 | 31 | 3 26     |                |           | 34        | 26    | 53 | 51 | 21 53 |                |           | 64        | 46    | 18 | 49 |      |                |           |
| 5         | 4     | 48 | 28 | 4 2      |                |           | 35        | 27    | 18 | 51 | 22 36 |                |           | 65        | 47    | 9  | 24 |      |                |           |
| 6         | 5     | 48 | 25 | 5 32     |                |           | 36        | 28    | 21 | 37 | 23 19 |                |           | 66        | 47    | 19 | 9  |      |                |           |
| 7         | 6     | 48 | 24 | 6 17     |                |           | 37        | 29    | 8  | 8  | 24 4  |                |           | 67        | 48    | 8  | 1  |      |                |           |
| 8         | 7     | 48 | 22 | 7 51     |                |           | 38        | 29    | 52 | 21 | 24 47 |                |           | 68        | 48    | 16 | 0  |      |                |           |
| 9         | 8     | 48 | 18 | 8 29     |                |           | 39        | 30    | 16 | 21 | 25 32 |                |           | 69        | 49    | 1  | 0  |      |                |           |
| 10        | 9     | 48 | 15 | 9 6      |                |           | 40        | 31    | 20 | 2  | 26 17 |                |           | 70        | 49    | 29 | 3  |      |                |           |
| 11        | 10    | 48 | 12 | 10 44    |                |           | 41        | 32    | 3  | 25 | 27 2  |                |           | 71        | 49    | 24 | 7  |      |                |           |
| 12        | 11    | 48 | 8  | 11 21    |                |           | 42        | 32    | 46 | 10 | 27 47 |                |           | 72        | 50    | 18 | 7  |      |                |           |
| 13        | 12    | 48 | 4  | 12 59    |                |           | 43        | 33    | 29 | 18 | 28 35 |                |           | 73        | 50    | 41 | 3  |      |                |           |
| 14        | 13    | 48 | 0  | 13 15    |                |           | 44        | 34    | 11 | 47 | 29 20 |                |           | 74        | 51    | 2  | 55 |      |                |           |
| 15        | 14    | 48 | 5  | 14 12    |                |           | 45        | 34    | 51 | 39 | 30 7  |                |           | 75        | 51    | 31 | 17 |      |                |           |
| 16        | 15    | 48 | 6  | 15 52    |                |           | 46        | 35    | 15 | 18 | 30 55 |                |           | 76        | 51    | 41 | 10 |      |                |           |
| 17        | 16    | 48 | 43 | 16 29    |                |           | 47        | 36    | 16 | 35 | 31 42 |                |           | 77        | 52    | 1  | 31 |      |                |           |
| 18        | 17    | 48 | 18 | 17 8     |                |           | 48        | 36    | 57 | 26 | 32 31 |                |           | 78        | 52    | 18 | 18 |      |                |           |
| 19        | 18    | 48 | 11 | 18 46    |                |           | 49        | 37    | 27 | 51 | 33 20 |                |           | 79        | 52    | 34 | 31 |      |                |           |
| 20        | 19    | 48 | 3  | 19 24    |                |           | 50        | 38    | 17 | 59 | 34 8  |                |           | 80        | 52    | 49 | 7  |      |                |           |
| 21        | 20    | 48 | 13 | 20 11    |                |           | 51        | 38    | 57 | 22 | 34 58 |                |           | 81        | 53    | 2  | 25 |      |                |           |
| 22        | 21    | 48 | 10 | 21 42    |                |           | 52        | 39    | 16 | 25 | 35 47 |                |           | 82        | 53    | 14 | 23 |      |                |           |
| 23        | 22    | 48 | 40 | 22 21    |                |           | 53        | 40    | 14 | 57 | 36 37 |                |           | 83        | 53    | 25 | 0  |      |                |           |
| 24        | 23    | 48 | 42 | 23 1     |                |           | 54        | 40    | 52 | 57 | 37 27 |                |           | 84        | 53    | 34 | 13 |      |                |           |
| 25        | 24    | 48 | 35 | 24 41    |                |           | 55        | 41    | 30 | 24 | 38 17 |                |           | 85        | 53    | 42 | 4  |      |                |           |
| 26        | 25    | 48 | 35 | 25 16 21 |                |           | 56        | 42    | 7  | 17 | 39 10 |                |           | 86        | 53    | 48 | 30 |      |                |           |
| 27        | 26    | 48 | 34 | 26 17 1  |                |           | 57        | 42    | 43 | 36 | 39 59 |                |           | 87        | 53    | 51 | 32 |      |                |           |
| 28        | 27    | 48 | 31 | 27 42    |                |           | 58        | 43    | 19 | 16 | 40 50 |                |           | 88        | 53    | 57 | 7  |      |                |           |
| 29        | 28    | 48 | 31 | 28 23    |                |           | 59        | 43    | 54 | 17 | 41 41 |                |           | 89        | 53    | 59 | 17 |      |                |           |
| 30        | 29    | 48 | 31 | 29 4     |                |           | 60        | 44    | 28 | 19 | 42 33 |                |           | 90        | 54    | 0  | 0  |      |                |           |

| ARCUS    |    |    |    |       | ARCUS    |    |    |    |       | ARCUS    |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| Defectio |    |    |    |       | Defectio |    |    |    |       | Defectio |    |    |    |       |
| g        | m  | fa | mi | fa    | g        | m  | fa | mi | fa    | g        | m  | fa | mi | fa    |
| 1        | 0  | 49 | 9  | 0 36  | 31       | 24 | 57 | 16 | 19 20 | 61       | 45 | 45 | 41 | 42 53 |
| 2        | 1  | 38 | 17 | 1 12  | 32       | 25 | 43 | 38 | 20 1  | 62       | 46 | 19 | 30 | 43 44 |
| 3        | 2  | 27 | 26 | 2 46  | 33       | 26 | 29 | 47 | 20 43 | 63       | 46 | 52 | 32 | 44 36 |
| 4        | 3  | 16 | 33 | 3 22  | 34       | 27 | 15 | 44 | 21 25 | 64       | 47 | 24 | 46 | 45 29 |
| 5        | 4  | 5  | 38 | 4 59  | 35       | 28 | 1  | 27 | 22 7  | 65       | 47 | 56 | 30 | 46 20 |
| 6        | 4  | 54 | 43 | 5 34  | 36       | 28 | 46 | 36 | 22 51 | 66       | 48 | 26 | 47 | 47 10 |
| 7        | 5  | 41 | 46 | 6 9   | 37       | 29 | 32 | 12 | 23 33 | 67       | 48 | 56 | 48 | 48 0  |
| 8        | 6  | 31 | 46 | 7 46  | 38       | 30 | 17 | 10 | 24 17 | 68       | 49 | 25 | 14 | 48 50 |
| 9        | 7  | 21 | 44 | 8 22  | 39       | 31 | 1  | 51 | 25 1  | 69       | 49 | 51 | 4  | 49 41 |
| 10       | 8  | 10 | 39 | 9 58  | 40       | 31 | 46 | 19 | 25 46 | 70       | 50 | 19 | 54 | 50 29 |
| 11       | 8  | 59 | 32 | 10 34 | 41       | 32 | 30 | 27 | 26 32 | 71       | 50 | 45 | 44 | 51 16 |
| 12       | 9  | 48 | 21 | 11 11 | 42       | 33 | 14 | 17 | 27 16 | 72       | 51 | 10 | 29 | 52 2  |
| 13       | 10 | 37 | 7  | 11 46 | 43       | 33 | 57 | 48 | 28 1  | 73       | 51 | 34 | 9  | 52 47 |
| 14       | 11 | 25 | 47 | 12 24 | 44       | 34 | 40 | 57 | 28 48 | 74       | 51 | 56 | 42 | 53 32 |
| 15       | 12 | 14 | 24 | 13 2  | 45       | 35 | 23 | 46 | 29 34 | 75       | 52 | 18 | 5  | 54 15 |
| 16       | 13 | 2  | 58 | 13 37 | 46       | 36 | 6  | 13 | 30 22 | 76       | 52 | 38 | 17 | 54 56 |
| 17       | 13 | 51 | 26 | 14 14 | 47       | 36 | 48 | 17 | 31 9  | 77       | 52 | 57 | 17 | 55 31 |
| 18       | 14 | 39 | 47 | 14 51 | 48       | 37 | 29 | 57 | 31 56 | 78       | 53 | 15 | 0  | 56 10 |
| 19       | 15 | 28 | 3  | 15 29 | 49       | 38 | 11 | 11 | 32 45 | 79       | 53 | 31 | 25 | 56 45 |
| 20       | 16 | 16 | 12 | 16 7  | 50       | 38 | 51 | 38 | 33 36 | 80       | 53 | 46 | 32 | 57 16 |
| 21       | 17 | 4  | 56 | 16 45 | 51       | 39 | 32 | 20 | 34 22 | 81       | 54 | 0  | 18 | 57 46 |
| 22       | 17 | 52 | 12 | 17 23 | 52       | 40 | 12 | 12 | 35 13 | 82       | 54 | 12 | 41 | 58 13 |
| 23       | 18 | 40 | 1  | 18 2  | 53       | 40 | 51 | 34 | 36 2  | 83       | 54 | 23 | 41 | 58 37 |
| 24       | 19 | 27 | 43 | 18 40 | 54       | 41 | 30 | 24 | 36 51 | 84       | 54 | 33 | 15 | 59 0  |
| 25       | 20 | 15 | 16 | 19 19 | 55       | 42 | 8  | 41 | 37 46 | 85       | 54 | 41 | 23 | 59 19 |
| 26       | 21 | 2  | 40 | 19 59 | 56       | 42 | 46 | 27 | 38 34 | 86       | 54 | 48 | 4  | 59 34 |
| 27       | 21 | 49 | 55 | 20 39 | 57       | 43 | 24 | 35 | 39 26 | 87       | 54 | 51 | 17 | 59 44 |
| 28       | 22 | 37 | 1  | 21 18 | 58       | 44 | 0  | 6  | 40 18 | 88       | 54 | 57 | 1  | 59 54 |
| 29       | 23 | 23 | 56 | 21 59 | 59       | 44 | 15 | 58 | 41 11 | 89       | 54 | 59 | 15 | 59 59 |
| 30       | 24 | 10 | 41 | 22 39 | 60       | 45 | 11 | 12 | 42 1  | 90       | 55 | 0  | 0  | 60 0  |

| E<br>R<br>R<br>O<br>R<br>E<br>S | ARCUS     |       |    |       |    | Z<br>e<br>r<br>o<br>r<br>e<br>s | ARCUS     |       |       |    |    | Z<br>e<br>r<br>o<br>r<br>e<br>s | ARCUS     |       |   |   |    | Z<br>e<br>r<br>o<br>r<br>e<br>s |
|---------------------------------|-----------|-------|----|-------|----|---------------------------------|-----------|-------|-------|----|----|---------------------------------|-----------|-------|---|---|----|---------------------------------|
|                                 | Defectio. | Arcus |    |       |    |                                 | Defectio. | Arcus |       |    |    |                                 | Defectio. | Arcus |   |   |    |                                 |
|                                 |           | m     | s  | m     | Pa |                                 |           | m     | s     | m  | Pa |                                 |           | m     | s | m | Pa |                                 |
| 1                               | 0         | 49    | 45 | 0 14  | 11 | 25                              | 16        | 36    | 18 51 | 61 | 46 | 28                              | 36        | 42 19 |   |   |    |                                 |
| 2                               | 1         | 39    | 29 | 1 9   | 12 | 26                              | 1         | 39    | 19 33 | 62 | 47 | 1                               | 14        | 43 13 |   |   |    |                                 |
| 3                               | 2         | 29    | 12 | 1 45  | 13 | 26                              | 50        | 40    | 20 15 | 63 | 47 | 37                              | 8         | 44 6  |   |   |    |                                 |
| 4                               | 3         | 18    | 55 | 2 19  | 14 | 27                              | 37        | 9     | 20 56 | 64 | 48 | 10                              | 15        | 44 58 |   |   |    |                                 |
| 5                               | 4         | 8     | 40 | 2 51  | 15 | 28                              | 11        | 34    | 21 38 | 65 | 48 | 31                              | 26        | 45 50 |   |   |    |                                 |
| 6                               | 4         | 58    | 17 | 3 28  | 16 | 29                              | 9         | 47    | 22 20 | 66 | 49 | 11                              | 37        | 46 41 |   |   |    |                                 |
| 7                               | 5         | 47    | 55 | 4 4   | 17 | 29                              | 55        | 45    | 23 2  | 67 | 49 | 44                              | 28        | 47 34 |   |   |    |                                 |
| 8                               | 6         | 37    | 12 | 4 38  | 18 | 30                              | 41        | 27    | 23 46 | 68 | 50 | 14                              | 4         | 48 26 |   |   |    |                                 |
| 9                               | 7         | 27    | 6  | 5 11  | 19 | 31                              | 26        | 54    | 24 29 | 69 | 50 | 42                              | 45        | 49 14 |   |   |    |                                 |
| 10                              | 8         | 16    | 17 | 5 49  | 40 | 32                              | 12        | 5     | 25 12 | 70 | 51 | 10                              | 21        | 50 4  |   |   |    |                                 |
| 11                              | 9         | 6     | 6  | 6 24  | 41 | 32                              | 56        | 49    | 25 56 | 71 | 51 | 37                              | 0         | 50 51 |   |   |    |                                 |
| 12                              | 9         | 55    | 11 | 7 0   | 42 | 33                              | 41        | 33    | 26 42 | 72 | 52 | 24                              | 25        | 51 42 |   |   |    |                                 |
| 13                              | 10        | 44    | 30 | 7 35  | 43 | 34                              | 25        | 49    | 27 27 | 73 | 52 | 26                              | 56        | 52 29 |   |   |    |                                 |
| 14                              | 11        | 34    | 11 | 8 12  | 44 | 35                              | 9         | 45    | 28 11 | 74 | 52 | 50                              | 14        | 53 15 |   |   |    |                                 |
| 15                              | 12        | 23    | 26 | 8 46  | 45 | 35                              | 51        | 20    | 29 1  | 75 | 53 | 12                              | 30        | 53 58 |   |   |    |                                 |
| 16                              | 13        | 12    | 35 | 9 21  | 46 | 36                              | 36        | 35    | 29 46 | 76 | 53 | 13                              | 11        | 54 40 |   |   |    |                                 |
| 17                              | 14        | 1     | 39 | 9 59  | 47 | 37                              | 19        | 36    | 30 31 | 77 | 53 | 52                              | 50        | 55 21 |   |   |    |                                 |
| 18                              | 14        | 50    | 18 | 10 36 | 48 | 38                              | 1         | 51    | 31 22 | 78 | 54 | 11                              | 10        | 55 59 |   |   |    |                                 |
| 19                              | 15        | 39    | 12 | 11 12 | 49 | 38                              | 43        | 56    | 32 10 | 79 | 54 | 28                              | 10        | 56 34 |   |   |    |                                 |
| 20                              | 16        | 28    | 19 | 11 49 | 50 | 39                              | 25        | 34    | 32 58 | 80 | 54 | 43                              | 48        | 57 10 |   |   |    |                                 |
| 21                              | 17        | 17    | 1  | 12 26 | 51 | 40                              | 6         | 42    | 33 49 | 81 | 54 | 58                              | 4         | 57 42 |   |   |    |                                 |
| 22                              | 18        | 5     | 15 | 13 5  | 52 | 40                              | 47        | 25    | 34 37 | 82 | 55 | 10                              | 54        | 58 10 |   |   |    |                                 |
| 23                              | 18        | 54    | 3  | 13 42 | 53 | 41                              | 27        | 36    | 35 28 | 83 | 55 | 22                              | 18        | 58 35 |   |   |    |                                 |
| 24                              | 19        | 42    | 12 | 14 20 | 54 | 42                              | 7         | 17    | 36 19 | 84 | 55 | 32                              | 15        | 58 56 |   |   |    |                                 |
| 25                              | 20        | 30    | 15 | 14 58 | 55 | 42                              | 46        | 27    | 37 8  | 85 | 55 | 40                              | 42        | 59 15 |   |   |    |                                 |
| 26                              | 21        | 18    | 39 | 15 36 | 56 | 43                              | 25        | 1     | 38 0  | 86 | 55 | 47                              | 38        | 59 30 |   |   |    |                                 |
| 27                              | 22        | 6     | 34 | 16 14 | 57 | 44                              | 3         | 1     | 38 51 | 87 | 55 | 54                              | 1         | 59 44 |   |   |    |                                 |
| 28                              | 22        | 54    | 19 | 16 54 | 58 | 44                              | 40        | 24    | 39 41 | 88 | 55 | 56                              | 55        | 59 51 |   |   |    |                                 |
| 29                              | 23        | 41    | 55 | 17 33 | 59 | 45                              | 17        | 9     | 40 35 | 89 | 55 | 59                              | 14        | 59 57 |   |   |    |                                 |
| 30                              | 24        | 29    | 20 | 18 14 | 60 | 45                              | 51        | 13    | 41 28 | 90 | 56 | 0                               | 0         | 60 0  |   |   |    |                                 |

| FIBRUS   |    |         |    |                        | FIBRUS   |    |         |    |                        | FIBRUS   |    |         |    |                        |
|----------|----|---------|----|------------------------|----------|----|---------|----|------------------------|----------|----|---------|----|------------------------|
| Defectus |    | Arcales |    | Diff. fra. Rate ratio. | Defectus |    | Arcales |    | Diff. fra. Rate ratio. | Defectus |    | Arcales |    | Diff. fra. Rate ratio. |
| g        | g  | m       | Pa | m Pa                   | g        | g  | m       | Pa | m Pa                   | g        | g  | m       | Pa | m Pa                   |
| 1        | 40 | 50      | 10 | 0 34                   | 31       | 45 | 35      | 29 | 18 26                  | 61       | 47 | 10      | 55 | 35 32                  |
| 2        | 41 | 40      | 38 | 2 0                    | 32       | 26 | 33      | 12 | 19 6                   | 62       | 47 | 46      | 27 | 42 39                  |
| 3        | 42 | 50      | 17 | 1 41                   | 33       | 37 | 40      | 25 | 19 44                  | 63       | 48 | 21      | 14 | 41 31                  |
| 4        | 43 | 21      | 44 | 2 15                   | 34       | 27 | 58      | 5  | 20 26                  | 64       | 48 | 59      | 11 | 44 24                  |
| 5        | 44 | 11      | 30 | 2 49                   | 35       | 28 | 45      | 12 | 21 8                   | 65       | 49 | 28      | 21 | 45 18                  |
| 6        | 45 | 50      | 14 | 1 23                   | 36       | 29 | 32      | 7  | 21 49                  | 66       | 50 | 0       | 38 | 46 13                  |
| 7        | 46 | 51      | 39 | 3 57                   | 37       | 30 | 18      | 47 | 22 31                  | 67       | 50 | 32      | 2  | 47 5                   |
| 8        | 47 | 42      | 10 | 4 31                   | 38       | 31 | 5       | 13 | 23 13                  | 68       | 51 | 2       | 30 | 47 57                  |
| 9        | 48 | 32      | 19 | 5 6                    | 39       | 31 | 51      | 23 | 23 56                  | 69       | 51 | 31      | 59 | 48 48                  |
| 10       | 49 | 22      | 26 | 5 40                   | 40       | 32 | 37      | 17 | 24 41                  | 70       | 52 | 0       | 27 | 49 41                  |
| 11       | 50 | 12      | 30 | 6 14                   | 41       | 33 | 22      | 20 | 25 23                  | 71       | 52 | 27      | 53 | 50 31                  |
| 12       | 51 | 49      | 57 | 6 48                   | 42       | 34 | 8       | 15 | 26 7                   | 72       | 52 | 54      | 13 | 51 21                  |
| 13       | 52 | 49      | 55 | 7 22                   | 43       | 34 | 53      | 16 | 26 58                  | 73       | 53 | 19      | 25 | 52 9                   |
| 14       | 53 | 41      | 24 | 7 58                   | 44       | 35 | 37      | 58 | 27 38                  | 74       | 53 | 41      | 29 | 52 55                  |
| 15       | 54 | 32      | 12 | 8 33                   | 45       | 36 | 22      | 21 | 28 24                  | 75       | 54 | 6       | 18 | 53 42                  |
| 16       | 55 | 13      | 21 | 9 8                    | 46       | 37 | 6       | 21 | 29 10                  | 76       | 54 | 27      | 51 | 54 26                  |
| 17       | 56 | 11      | 38 | 9 44                   | 47       | 37 | 49      | 38 | 29 57                  | 77       | 54 | 48      | 18 | 55 8                   |
| 18       | 57 | 49      | 10 | 10 19                  | 48       | 38 | 13      | 15 | 30 44                  | 78       | 55 | 7       | 9  | 55 49                  |
| 19       | 58 | 39      | 24 | 10 55                  | 49       | 39 | 10      | 6  | 31 33                  | 79       | 55 | 24      | 44 | 56 27                  |
| 20       | 59 | 40      | 8  | 11 31                  | 50       | 39 | 58      | 32 | 32 21                  | 80       | 55 | 40      | 58 | 57 1                   |
| 21       | 60 | 29      | 27 | 12 7                   | 51       | 40 | 40      | 31 | 33 10                  | 81       | 55 | 55      | 46 | 57 32                  |
| 22       | 61 | 18      | 18 | 12 42                  | 52       | 41 | 22      | 2  | 33 59                  | 82       | 56 | 9       | 4  | 58 3                   |
| 23       | 62 | 49      | 5  | 13 20                  | 53       | 42 | 3       | 4  | 34 51                  | 83       | 56 | 20      | 51 | 58 29                  |
| 24       | 63 | 19      | 56 | 13 57                  | 54       | 42 | 41      | 36 | 35 40                  | 84       | 56 | 31      | 11 | 59 21                  |
| 25       | 64 | 20      | 43 | 14 34                  | 55       | 43 | 21      | 35 | 36 31                  | 85       | 56 | 39      | 57 | 59 59                  |
| 26       | 65 | 21      | 34 | 15 12                  | 56       | 44 | 3       | 1  | 37 23                  | 86       | 56 | 47      | 8  | 59 29                  |
| 27       | 66 | 22      | 28 | 15 51                  | 57       | 44 | 41      | 32 | 38 15                  | 87       | 56 | 52      | 49 | 59 44                  |
| 28       | 67 | 11      | 14 | 16 28                  | 58       | 45 | 20      | 7  | 39 7                   | 88       | 56 | 56      | 46 | 59 54                  |
| 29       | 68 | 23      | 59 | 17 7                   | 59       | 45 | 57      | 44 | 39 59                  | 89       | 56 | 59      | 11 | 59 59                  |
| 30       | 69 | 24      | 47 | 17 46                  | 60       | 46 | 14      | 41 | 40 51                  | 90       | 57 | 0       | 0  | 60 0                   |



| ARCUS     |    |    |    |       | Diff<br>fer<br>tia<br>Late<br>ralis. | ARCUS     |    |    |      |       | Diff<br>fer<br>tia<br>Late<br>ralis. | ARCUS     |    |      |     |       | Diff<br>fer<br>tia<br>Late<br>ralis. |    |      |
|-----------|----|----|----|-------|--------------------------------------|-----------|----|----|------|-------|--------------------------------------|-----------|----|------|-----|-------|--------------------------------------|----|------|
| Defectus. |    |    |    |       |                                      | Defectus. |    |    |      |       |                                      | Defectus. |    |      |     |       |                                      |    |      |
|           | g  | m  | fa | m fa  |                                      | g         | m  | fa | m fa |       | g                                    | m         | fa | m fa |     | g     | m                                    | fa | m fa |
| 1         | 0  | 50 | 51 | 0 11  |                                      | 31        | 25 | 51 | 50   | 17 58 |                                      | 61        | 47 | 52   | 40  | 41 10 |                                      |    |      |
| 2         | 1  | 41 | 46 | 1 6   |                                      | 32        | 26 | 42 | 48   | 18 17 |                                      | 62        | 48 | 49   | 1 6 | 42 1  |                                      |    |      |
| 3         | 2  | 32 | 38 | 1 39  |                                      | 33        | 27 | 30 | 30   | 19 18 |                                      | 63        | 49 | 4    | 45  | 42 57 |                                      |    |      |
| 4         | 3  | 23 | 29 | 2 12  |                                      | 34        | 28 | 18 | 41   | 19 57 |                                      | 64        | 49 | 39   | 17  | 43 51 |                                      |    |      |
| 5         | 4  | 14 | 19 | 2 45  |                                      | 35        | 29 | 6  | 30   | 20 18 |                                      | 65        | 50 | 14   | 19  | 44 47 |                                      |    |      |
| 6         | 5  | 5  | 8  | 3 18  |                                      | 36        | 29 | 53 | 56   | 21 17 |                                      | 66        | 50 | 46   | 51  | 45 39 |                                      |    |      |
| 7         | 5  | 55 | 56 | 3 50  |                                      | 37        | 30 | 41 | 18   | 21 50 |                                      | 67        | 51 | 19   | 7   | 46 31 |                                      |    |      |
| 8         | 6  | 45 | 41 | 4 24  |                                      | 38        | 31 | 28 | 16   | 22 41 |                                      | 68        | 51 | 50   | 27  | 47 26 |                                      |    |      |
| 9         | 7  | 37 | 25 | 4 57  |                                      | 39        | 32 | 15 | 19   | 23 22 |                                      | 69        | 52 | 20   | 47  | 48 22 |                                      |    |      |
| 10        | 8  | 28 | 6  | 5 10  |                                      | 40        | 33 | 1  | 58   | 24 5  |                                      | 70        | 52 | 50   | 8   | 49 14 |                                      |    |      |
| 11        | 9  | 18 | 44 | 6 3   |                                      | 41        | 33 | 48 | 18   | 24 49 |                                      | 71        | 53 | 18   | 24  | 50 6  |                                      |    |      |
| 12        | 10 | 9  | 19 | 6 37  |                                      | 42        | 34 | 34 | 12   | 25 31 |                                      | 72        | 53 | 45   | 14  | 50 57 |                                      |    |      |
| 13        | 10 | 59 | 54 | 7 12  |                                      | 43        | 35 | 20 | 8    | 26 17 |                                      | 73        | 54 | 11   | 15  | 51 48 |                                      |    |      |
| 14        | 11 | 50 | 21 | 7 44  |                                      | 44        | 36 | 5  | 16   | 27 1  |                                      | 74        | 54 | 36   | 24  | 52 36 |                                      |    |      |
| 15        | 12 | 40 | 45 | 8 19  |                                      | 45        | 36 | 50 | 45   | 27 46 |                                      | 75        | 55 | 0    | 0   | 53 24 |                                      |    |      |
| 16        | 13 | 31 | 6  | 8 54  |                                      | 46        | 37 | 15 | 31   | 28 11 |                                      | 76        | 55 | 22   | 19  | 54 9  |                                      |    |      |
| 17        | 14 | 21 | 22 | 9 28  |                                      | 47        | 38 | 19 | 56   | 29 20 |                                      | 77        | 55 | 41   | 19  | 54 52 |                                      |    |      |
| 18        | 15 | 11 | 33 | 10 2  |                                      | 48        | 39 | 1  | 59   | 30 7  |                                      | 78        | 56 | 2    | 58  | 55 11 |                                      |    |      |
| 19        | 16 | 1  | 39 | 10 37 |                                      | 49        | 39 | 47 | 19   | 30 54 |                                      | 79        | 56 | 21   | 11  | 56 11 |                                      |    |      |
| 20        | 16 | 51 | 19 | 11 13 |                                      | 50        | 40 | 10 | 51   | 31 42 |                                      | 80        | 56 | 37   | 59  | 56 49 |                                      |    |      |
| 21        | 17 | 41 | 14 | 11 48 |                                      | 51        | 41 | 13 | 41   | 32 31 |                                      | 81        | 56 | 54   | 18  | 57 24 |                                      |    |      |
| 22        | 18 | 31 | 22 | 12 21 |                                      | 52        | 41 | 26 | 1    | 33 22 |                                      | 82        | 57 | 7    | 7   | 57 56 |                                      |    |      |
| 23        | 19 | 21 | 5  | 12 59 |                                      | 53        | 42 | 17 | 55   | 34 10 |                                      | 83        | 57 | 19   | 22  | 58 26 |                                      |    |      |
| 24        | 20 | 10 | 40 | 13 36 |                                      | 54        | 43 | 19 | 16   | 35 1  |                                      | 84        | 57 | 30   | 4   | 58 50 |                                      |    |      |
| 25        | 21 | 0  | 7  | 14 12 |                                      | 55        | 44 | 0  | 6    | 35 52 |                                      | 85        | 57 | 39   | 10  | 59 11 |                                      |    |      |
| 26        | 21 | 49 | 27 | 14 49 |                                      | 56        | 44 | 40 | 24   | 36 45 |                                      | 86        | 57 | 46   | 17  | 59 30 |                                      |    |      |
| 27        | 22 | 38 | 10 | 15 26 |                                      | 57        | 45 | 20 | 7    | 37 37 |                                      | 87        | 57 | 52   | 29  | 59 41 |                                      |    |      |
| 28        | 23 | 27 | 41 | 16 4  |                                      | 58        | 45 | 59 | 14   | 38 29 |                                      | 88        | 57 | 56   | 40  | 59 51 |                                      |    |      |
| 29        | 24 | 16 | 35 | 16 32 |                                      | 59        | 46 | 17 | 43   | 39 22 |                                      | 89        | 57 | 59   | 50  | 59 58 |                                      |    |      |
| 30        | 25 | 5  | 20 | 17 20 |                                      | 60        | 47 | 15 | 32   | 40 15 |                                      | 90        | 58 | 0    | 0   | 60 0  |                                      |    |      |



| Defectus. | ARCUS |    |    |                         | Diffé-<br>ren-<br>tia | Lat-<br>ra-<br>tio<br>m | ARCUS |    |    |                         | Diffé-<br>ren-<br>tia | Lat-<br>ra-<br>tio<br>m | ARCUS |    |    |                         | Diffé-<br>ren-<br>tia | Lat-<br>ra-<br>tio<br>m |
|-----------|-------|----|----|-------------------------|-----------------------|-------------------------|-------|----|----|-------------------------|-----------------------|-------------------------|-------|----|----|-------------------------|-----------------------|-------------------------|
|           | g     | m  | sa | Lat-<br>ra-<br>tio<br>m |                       |                         | g     | m  | sa | Lat-<br>ra-<br>tio<br>m |                       |                         | g     | m  | sa | Lat-<br>ra-<br>tio<br>m |                       |                         |
| 1         | 0     | 51 | 57 | 0 31                    |                       |                         | 31    | 26 | 29 | 41                      | 17 1                  |                         |       | 61 | 49 | 19                      | 21                    | 39 51                   |
| 2         | 1     | 43 | 55 | 1 2                     |                       |                         | 32    | 27 | 19 | 4                       | 17 38                 |                         |       | 62 | 40 | 52                      | 14                    | 40 47                   |
| 3         | 2     | 35 | 52 | 1 31                    |                       |                         | 33    | 28 | 8  | 34                      | 18 16                 |                         |       | 63 | 50 | 30                      | 3                     | 41 42                   |
| 4         | 3     | 27 | 48 | 2 4                     |                       |                         | 34    | 28 | 57 | 51                      | 18 56                 |                         |       | 64 | 51 | 6                       | 44                    | 42 38                   |
| 5         | 4     | 19 | 43 | 2 35                    |                       |                         | 35    | 29 | 47 | 2                       | 19 34                 |                         |       | 65 | 51 | 42                      | 36                    | 43 34                   |
| 6         | 5     | 11 | 38 | 3 6                     |                       |                         | 36    | 30 | 35 | 50                      | 20 13                 |                         |       | 66 | 52 | 17                      | 36                    | 44 31                   |
| 7         | 6     | 3  | 30 | 3 37                    |                       |                         | 37    | 31 | 24 | 43                      | 20 52                 |                         |       | 67 | 52 | 51                      | 41                    | 45 28                   |
| 8         | 6     | 55 | 21 | 4 9                     |                       |                         | 38    | 32 | 13 | 15                      | 21 32                 |                         |       | 68 | 53 | 24                      | 50                    | 46 24                   |
| 9         | 7     | 47 | 10 | 4 40                    |                       |                         | 39    | 33 | 1  | 31                      | 22 14                 |                         |       | 69 | 53 | 57                      | 0                     | 47 19                   |
| 10        | 8     | 38 | 56 | 5 12                    |                       |                         | 40    | 33 | 49 | 33                      | 22 55                 |                         |       | 70 | 54 | 28                      | 7                     | 48 14                   |
| 11        | 9     | 30 | 41 | 5 43                    |                       |                         | 41    | 34 | 37 | 20                      | 23 36                 |                         |       | 71 | 54 | 58                      | 9                     | 49 10                   |
| 12        | 10    | 22 | 33 | 6 14                    |                       |                         | 42    | 35 | 24 | 51                      | 24 19                 |                         |       | 72 | 55 | 27                      | 3                     | 50 5                    |
| 13        | 11    | 14 | 2  | 6 46                    |                       |                         | 43    | 36 | 12 | 6                       | 25 2                  |                         |       | 73 | 55 | 54                      | 46                    | 50 58                   |
| 14        | 12    | 5  | 38 | 7 19                    |                       |                         | 44    | 36 | 59 | 2                       | 25 47                 |                         |       | 74 | 56 | 21                      | 13                    | 51 52                   |
| 15        | 12    | 57 | 9  | 7 51                    |                       |                         | 45    | 37 | 45 | 40                      | 26 31                 |                         |       | 75 | 56 | 46                      | 26                    | 52 43                   |
| 16        | 13    | 48 | 38 | 8 23                    |                       |                         | 46    | 38 | 31 | 50                      | 27 15                 |                         |       | 76 | 57 | 10                      | 18                    | 53 32                   |
| 17        | 14    | 40 | 1  | 8 56                    |                       |                         | 47    | 39 | 17 | 57                      | 28 2                  |                         |       | 77 | 57 | 32                      | 47                    | 54 20                   |
| 18        | 15    | 31 | 21 | 9 29                    |                       |                         | 48    | 40 | 3  | 34                      | 28 48                 |                         |       | 78 | 57 | 53                      | 51                    | 55 6                    |
| 19        | 16    | 22 | 36 | 10 2                    |                       |                         | 49    | 40 | 48 | 48                      | 29 35                 |                         |       | 79 | 58 | 13                      | 27                    | 55 48                   |
| 20        | 17    | 13 | 45 | 10 36                   |                       |                         | 50    | 41 | 33 | 38                      | 30 23                 |                         |       | 80 | 58 | 31                      | 30                    | 56 28                   |
| 21        | 18    | 4  | 49 | 11 9                    |                       |                         | 51    | 42 | 18 | 4                       | 31 11                 |                         |       | 81 | 58 | 48                      | 0                     | 57 6                    |
| 22        | 18    | 55 | 48 | 11 44                   |                       |                         | 52    | 43 | 2  | 4                       | 31 59                 |                         |       | 82 | 59 | 2                       | 52                    | 57 41                   |
| 23        | 19    | 46 | 41 | 12 18                   |                       |                         | 53    | 43 | 45 | 36                      | 32 49                 |                         |       | 83 | 59 | 16                      | 6                     | 58 14                   |
| 24        | 20    | 37 | 29 | 12 51                   |                       |                         | 54    | 44 | 28 | 39                      | 33 39                 |                         |       | 84 | 59 | 27                      | 38                    | 58 41                   |
| 25        | 21    | 28 | 8  | 13 26                   |                       |                         | 55    | 45 | 11 | 12                      | 34 31                 |                         |       | 85 | 59 | 37                      | 28                    | 59 5                    |
| 26        | 22    | 18 | 41 | 14 1                    |                       |                         | 56    | 45 | 51 | 13                      | 35 23                 |                         |       | 86 | 59 | 45                      | 32                    | 59 26                   |
| 27        | 23    | 9  | 6  | 14 36                   |                       |                         | 57    | 46 | 34 | 41                      | 36 14                 |                         |       | 87 | 59 | 51                      | 50                    | 59 42                   |
| 28        | 23    | 59 | 23 | 15 12                   |                       |                         | 58    | 47 | 15 | 32                      | 37 8                  |                         |       | 88 | 59 | 56                      | 22                    | 59 52                   |
| 29        | 24    | 49 | 33 | 15 47                   |                       |                         | 59    | 47 | 55 | 47                      | 38 1                  |                         |       | 89 | 59 | 59                      | 3                     | 59 58                   |
| 30        | 25    | 39 | 32 | 16 25                   |                       |                         | 60    | 48 | 15 | 25                      | 38 56                 |                         |       | 90 | 60 | 0                       | 0                     | 60 0                    |

| ARCUS  |    |      |    |    |    | ARCUS  |    |      |    |    |    | ARCUS  |    |      |    |    |    |
|--------|----|------|----|----|----|--------|----|------|----|----|----|--------|----|------|----|----|----|
| Defect |    | Arcs |    |    |    | Defect |    | Arcs |    |    |    | Defect |    | Arcs |    |    |    |
| g      | m  | g    | m  | g  | m  | g      | m  | g    | m  | g  | m  | g      | m  | g    | m  | g  | m  |
| 1      | 0  | 52   | 20 | 52 | 28 | 0      | 30 | 31   | 26 | 44 | 24 | 16     | 32 | 61   | 49 | 34 | 12 |
| 2      | 1  | 44   | 57 | 52 | 28 | 1      | 0  | 32   | 27 | 36 | 42 | 17     | 8  | 62   | 50 | 33 | 21 |
| 3      | 2  | 37   | 25 | 52 | 27 | 1      | 30 | 33   | 28 | 26 | 50 | 17     | 46 | 63   | 51 | 11 | 45 |
| 4      | 3  | 29   | 52 | 52 | 26 | 2      | 0  | 34   | 29 | 16 | 49 | 18     | 23 | 64   | 51 | 49 | 22 |
| 5      | 4  | 22   | 18 | 52 | 26 | 2      | 31 | 35   | 30 | 6  | 36 | 19     | 1  | 65   | 52 | 26 | 10 |
| 6      | 5  | 14   | 44 | 52 | 23 | 3      | 0  | 36   | 30 | 56 | 12 | 19     | 39 | 66   | 53 | 2  | 7  |
| 7      | 6  | 7    | 7  | 52 | 21 | 3      | 31 | 37   | 31 | 45 | 35 | 20     | 18 | 67   | 54 | 37 | 9  |
| 8      | 6  | 59   | 30 | 52 | 20 | 4      | 1  | 38   | 32 | 34 | 47 | 20     | 57 | 68   | 54 | 34 | 5  |
| 9      | 7  | 51   | 50 | 52 | 18 | 4      | 31 | 39   | 33 | 23 | 45 | 21     | 37 | 69   | 54 | 33 | 2  |
| 10     | 8  | 44   | 8  | 52 | 16 | 5      | 2  | 40   | 34 | 12 | 28 | 22     | 18 | 70   | 55 | 16 | 21 |
| 11     | 9  | 36   | 24 | 52 | 13 | 5      | 32 | 41   | 35 | 0  | 56 | 22     | 59 | 71   | 55 | 47 | 19 |
| 12     | 10 | 28   | 37 | 52 | 11 | 6      | 4  | 42   | 35 | 49 | 10 | 23     | 40 | 72   | 56 | 17 | 8  |
| 13     | 11 | 20   | 48 | 52 | 9  | 6      | 34 | 43   | 36 | 37 | 8  | 24     | 24 | 73   | 56 | 45 | 44 |
| 14     | 12 | 12   | 59 | 52 | 3  | 7      | 4  | 44   | 37 | 24 | 49 | 25     | 6  | 74   | 57 | 13 | 5  |
| 15     | 13 | 5    | 0  | 52 | 1  | 7      | 37 | 45   | 38 | 12 | 11 | 25     | 50 | 75   | 57 | 10 | 9  |
| 16     | 13 | 27   | 1  | 51 | 56 | 8      | 8  | 46   | 38 | 59 | 14 | 26     | 34 | 76   | 58 | 4  | 30 |
| 17     | 14 | 48   | 57 | 51 | 51 | 8      | 40 | 47   | 39 | 45 | 29 | 27     | 19 | 77   | 58 | 27 | 7  |
| 18     | 15 | 40   | 50 | 51 | 49 | 9      | 11 | 48   | 40 | 32 | 22 | 28     | 5  | 78   | 58 | 48 | 50 |
| 19     | 16 | 32   | 18 | 51 | 41 | 9      | 43 | 49   | 41 | 18 | 23 | 28     | 52 | 79   | 59 | 9  | 15 |
| 20     | 17 | 24   | 21 | 51 | 37 | 10     | 16 | 50   | 42 | 4  | 1  | 29     | 40 | 80   | 59 | 27 | 58 |
| 21     | 18 | 15   | 58 | 51 | 34 | 10     | 50 | 51   | 42 | 49 | 15 | 30     | 28 | 81   | 59 | 45 | 6  |
| 22     | 19 | 7    | 32 | 51 | 28 | 11     | 22 | 52   | 43 | 34 | 1  | 31     | 17 | 82   | 60 | 0  | 31 |
| 23     | 19 | 59   | 0  | 51 | 20 | 11     | 54 | 53   | 44 | 18 | 25 | 32     | 6  | 83   | 60 | 14 | 20 |
| 24     | 20 | 50   | 20 | 51 | 14 | 12     | 28 | 54   | 45 | 2  | 18 | 32     | 57 | 84   | 60 | 26 | 19 |
| 25     | 21 | 41   | 34 | 51 | 8  | 13     | 2  | 55   | 45 | 45 | 41 | 33     | 47 | 85   | 60 | 36 | 8  |
| 26     | 22 | 32   | 42 | 51 | 0  | 13     | 16 | 56   | 46 | 28 | 36 | 34     | 38 | 86   | 60 | 44 | 58 |
| 27     | 23 | 23   | 42 | 50 | 51 | 14     | 10 | 57   | 47 | 10 | 55 | 35     | 32 | 87   | 60 | 51 | 34 |
| 28     | 24 | 14   | 35 | 50 | 45 | 14     | 45 | 58   | 47 | 52 | 40 | 36     | 26 | 88   | 60 | 56 | 14 |
| 29     | 25 | 5    | 20 | 50 | 37 | 15     | 21 | 59   | 48 | 33 | 50 | 37     | 19 | 89   | 60 | 59 | 3  |
| 30     | 25 | 55   | 57 | 50 | 27 | 15     | 56 | 60   | 49 | 14 | 21 | 38     | 13 | 90   | 61 | 0  | 0  |

| ARCUS     |    |    |    |      | Diff<br>fer<br>tia<br>Rate<br>ratio | ARCUS     |    |    |    |      | Diff<br>fer<br>tia<br>Rate<br>ratio | ARCUS     |    |    |    |      | Diff<br>fer<br>tia<br>Rate<br>ratio |
|-----------|----|----|----|------|-------------------------------------|-----------|----|----|----|------|-------------------------------------|-----------|----|----|----|------|-------------------------------------|
| Defectus. |    |    |    |      |                                     | Defectus. |    |    |    |      |                                     | Defectus. |    |    |    |      |                                     |
| g         | g  | m  | Pa | m Pa |                                     | g         | g  | m  | Pa | m Pa |                                     | g         | g  | m  | Pa | m Pa |                                     |
| 1         | 0  | 52 | 39 | 58   | 0 29                                | 31        | 27 | 2  | 56 | 50   | 16 2                                | 61        | 50 | 33 | 21 | 4    | 18 24                               |
| 2         | 1  | 45 | 57 | 58   | 0 58                                | 32        | 27 | 51 | 50 | 46   | 16 39                               | 62        | 51 | 13 | 25 | 20   | 39 20                               |
| 3         | 2  | 48 | 55 | 52   | 1 27                                | 33        | 28 | 44 | 36 | 46   | 17 15                               | 63        | 51 | 52 | 45 | 38   | 40 18                               |
| 4         | 3  | 51 | 52 | 57   | 1 56                                | 34        | 29 | 35 | 12 | 45   | 17 50                               | 64        | 52 | 37 | 19 | 46   | 41 15                               |
| 5         | 4  | 54 | 49 | 55   | 2 25                                | 35        | 30 | 25 | 15 | 44   | 18 27                               | 65        | 53 | 9  | 5  | 36   | 42 13                               |
| 6         | 5  | 57 | 44 | 54   | 2 54                                | 36        | 31 | 15 | 51 | 43   | 19 4                                | 66        | 53 | 46 | 0  | 35   | 43 10                               |
| 7         | 6  | 10 | 40 | 52   | 3 24                                | 37        | 32 | 5  | 51 | 42   | 19 43                               | 67        | 54 | 21 | 58 | 35   | 44 10                               |
| 8         | 7  | 3  | 31 | 52   | 3 53                                | 38        | 32 | 55 | 44 | 38   | 20 21                               | 68        | 54 | 57 | 1  | 34   | 45 10                               |
| 9         | 7  | 56 | 21 | 52   | 4 23                                | 39        | 33 | 45 | 22 | 39   | 21 0                                | 69        | 55 | 31 | 4  | 33   | 46 9                                |
| 10        | 8  | 49 | 10 | 52   | 4 52                                | 40        | 34 | 34 | 46 | 38   | 21 40                               | 70        | 56 | 4  | 4  | 31   | 47 7                                |
| 11        | 9  | 41 | 56 | 52   | 5 22                                | 41        | 35 | 23 | 55 | 37   | 22 22                               | 71        | 56 | 35 | 58 | 30   | 48 6                                |
| 12        | 10 | 34 | 41 | 52   | 5 51                                | 42        | 36 | 12 | 50 | 36   | 23 1                                | 72        | 57 | 6  | 43 | 29   | 49 4                                |
| 13        | 11 | 27 | 32 | 52   | 6 21                                | 43        | 37 | 1  | 32 | 35   | 23 41                               | 73        | 57 | 16 | 15 | 28   | 50 2                                |
| 14        | 12 | 20 | 1  | 52   | 6 51                                | 44        | 37 | 49 | 55 | 34   | 24 26                               | 74        | 58 | 4  | 32 | 26   | 50 57                               |
| 15        | 13 | 12 | 37 | 52   | 7 22                                | 45        | 38 | 38 | 6  | 33   | 25 9                                | 75        | 58 | 31 | 28 | 25   | 51 51                               |
| 16        | 14 | 5  | 9  | 52   | 7 52                                | 46        | 39 | 25 | 48 | 32   | 25 55                               | 76        | 58 | 57 | 1  | 24   | 52 48                               |
| 17        | 14 | 57 | 37 | 52   | 8 23                                | 47        | 40 | 13 | 48 | 31   | 26 38                               | 77        | 59 | 21 | 8  | 22   | 53 40                               |
| 18        | 15 | 50 | 1  | 52   | 8 54                                | 48        | 41 | 0  | 27 | 46   | 27 12                               | 78        | 59 | 43 | 36 | 21   | 54 30                               |
| 19        | 16 | 42 | 21 | 52   | 9 25                                | 49        | 41 | 47 | 15 | 45   | 28 8                                | 79        | 60 | 4  | 48 | 19   | 55 19                               |
| 20        | 17 | 34 | 37 | 52   | 9 56                                | 50        | 42 | 31 | 41 | 44   | 28 55                               | 80        | 60 | 24 | 17 | 17   | 56 2                                |
| 21        | 18 | 26 | 45 | 52   | 10 28                               | 51        | 43 | 19 | 41 | 43   | 29 42                               | 81        | 60 | 42 | 3  | 16   | 56 45                               |
| 22        | 19 | 18 | 54 | 52   | 11 0                                | 52        | 44 | 5  | 20 | 42   | 30 31                               | 82        | 60 | 58 | 7  | 14   | 57 23                               |
| 23        | 20 | 10 | 54 | 51   | 11 32                               | 53        | 44 | 50 | 31 | 41   | 31 22                               | 83        | 61 | 12 | 26 | 12   | 57 58                               |
| 24        | 21 | 2  | 48 | 51   | 12 5                                | 54        | 45 | 35 | 15 | 40   | 32 11                               | 84        | 61 | 24 | 55 | 10   | 58 30                               |
| 25        | 21 | 54 | 36 | 51   | 12 38                               | 55        | 46 | 19 | 30 | 39   | 33 2                                | 85        | 61 | 35 | 33 | 8    | 58 50                               |
| 26        | 22 | 46 | 18 | 51   | 13 11                               | 56        | 47 | 3  | 14 | 38   | 33 54                               | 86        | 61 | 44 | 49 | 6    | 59 20                               |
| 27        | 23 | 37 | 52 | 51   | 13 45                               | 57        | 47 | 46 | 27 | 37   | 34 47                               | 87        | 61 | 51 | 9  | 4    | 59 39                               |
| 28        | 24 | 29 | 30 | 51   | 14 19                               | 58        | 48 | 29 | 6  | 36   | 35 39                               | 88        | 61 | 56 | 4  | 2    | 59 51                               |
| 29        | 25 | 20 | 41 | 51   | 14 53                               | 59        | 49 | 11 | 9  | 35   | 36 31                               | 89        | 61 | 59 | 1  | 0    | 59 58                               |
| 30        | 26 | 11 | 53 | 51   | 15 27                               | 60        | 49 | 51 | 34 | 34   | 37 29                               | 90        | 62 | 0  | 0  | 0    | 60 0                                |

| ARCUS    |    |    |    |       | ARCUS    |    |    |    |       | ARCUS    |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| Defectio |    |    |    |       | Defectio |    |    |    |       | Defectio |    |    |    |       |
| g        | m  | mi | fa | mi fa | g        | m  | mi | fa | mi fa | g        | m  | mi | fa | mi fa |
| 1        | 0  | 53 | 28 | 0 28  | 31       | 17 | 18 | 58 | 15 33 | 61       | 51 | 11 | 45 | 37 37 |
| 2        | 1  | 46 | 55 | 0 56  | 32       | 28 | 10 | 29 | 16 7  | 62       | 51 | 52 | 45 | 18 34 |
| 3        | 2  | 40 | 22 | 1 24  | 33       | 29 | 1  | 51 | 16 42 | 63       | 52 | 13 | 3  | 39 31 |
| 4        | 3  | 33 | 48 | 1 51  | 34       | 29 | 51 | 2  | 17 18 | 64       | 53 | 12 | 34 | 40 30 |
| 5        | 4  | 27 | 14 | 2 20  | 35       | 30 | 44 | 4  | 17 51 | 65       | 53 | 51 | 18 | 41 28 |
| 6        | 5  | 20 | 38 | 2 49  | 36       | 31 | 34 | 55 | 18 31 | 66       | 54 | 29 | 10 | 42 27 |
| 7        | 6  | 14 | 2  | 3 17  | 37       | 32 | 25 | 36 | 19 7  | 67       | 55 | 6  | 8  | 43 27 |
| 8        | 7  | 7  | 24 | 3 45  | 38       | 33 | 16 | 5  | 19 46 | 68       | 55 | 42 | 11 | 44 28 |
| 9        | 8  | 0  | 44 | 4 13  | 39       | 34 | 6  | 22 | 20 24 | 69       | 56 | 17 | 14 | 45 28 |
| 10       | 8  | 55 | 16 | 4 42  | 40       | 34 | 54 | 26 | 21 2  | 70       | 56 | 51 | 11 | 46 29 |
| 11       | 9  | 47 | 18 | 5 11  | 41       | 35 | 46 | 17 | 21 42 | 71       | 57 | 24 | 4  | 47 30 |
| 12       | 10 | 40 | 32 | 5 40  | 42       | 36 | 35 | 51 | 22 21 | 72       | 57 | 55 | 47 | 48 30 |
| 13       | 11 | 33 | 41 | 6 10  | 43       | 37 | 25 | 15 | 23 1  | 73       | 58 | 26 | 17 | 49 29 |
| 14       | 12 | 25 | 52 | 6 39  | 44       | 38 | 14 | 21 | 23 45 | 74       | 58 | 55 | 29 | 50 27 |
| 15       | 13 | 19 | 59 | 7 7   | 45       | 39 | 3  | 10 | 24 28 | 75       | 59 | 23 | 21 | 51 25 |
| 16       | 14 | 13 | 1  | 7 37  | 46       | 39 | 51 | 41 | 25 9  | 76       | 59 | 49 | 49 | 52 23 |
| 17       | 15 | 6  | 0  | 8 7   | 47       | 40 | 19 | 56 | 25 51 | 77       | 60 | 14 | 48 | 53 18 |
| 18       | 15 | 58 | 55 | 8 17  | 48       | 41 | 27 | 49 | 26 39 | 78       | 60 | 38 | 16 | 54 9  |
| 19       | 16 | 51 | 46 | 8 47  | 49       | 42 | 15 | 21 | 27 25 | 79       | 61 | 0  | 7  | 55 0  |
| 20       | 17 | 44 | 33 | 9 17  | 50       | 43 | 2  | 16 | 28 10 | 80       | 61 | 20 | 19 | 55 48 |
| 21       | 18 | 37 | 16 | 10 7  | 51       | 43 | 49 | 25 | 28 58 | 81       | 61 | 48 | 48 | 56 34 |
| 22       | 19 | 29 | 54 | 10 39 | 52       | 44 | 35 | 51 | 29 45 | 82       | 61 | 55 | 30 | 57 15 |
| 23       | 20 | 22 | 26 | 11 11 | 53       | 45 | 21 | 53 | 30 31 | 83       | 62 | 10 | 24 | 57 52 |
| 24       | 21 | 14 | 53 | 11 41 | 54       | 46 | 7  | 26 | 31 21 | 84       | 62 | 23 | 25 | 58 25 |
| 25       | 22 | 7  | 14 | 12 11 | 55       | 46 | 52 | 12 | 32 14 | 85       | 62 | 34 | 32 | 58 52 |
| 26       | 23 | 0  | 29 | 12 45 | 56       | 47 | 37 | 8  | 33 7  | 86       | 62 | 43 | 39 | 59 16 |
| 27       | 23 | 51 | 37 | 13 17 | 57       | 48 | 21 | 14 | 33 59 | 87       | 62 | 50 | 48 | 59 34 |
| 28       | 24 | 43 | 39 | 13 51 | 58       | 49 | 4  | 45 | 34 52 | 88       | 62 | 55 | 55 | 59 47 |
| 29       | 25 | 35 | 34 | 14 24 | 59       | 49 | 47 | 42 | 35 45 | 89       | 62 | 58 | 59 | 60 0  |
| 30       | 26 | 27 | 20 | 14 58 | 60       | 50 | 30 | 3  | 36 41 | 90       | 63 | 0  | 0  | 60 0  |



| ARCUS     |    |    |    |       | ARCUS     |    |    |    |    | ARCUS     |    |    |    |       |
|-----------|----|----|----|-------|-----------|----|----|----|----|-----------|----|----|----|-------|
| Defectus. |    |    |    |       | Defectus. |    |    |    |    | Defectus. |    |    |    |       |
| g         | m  | Pa | m  | Pa    | g         | m  | Pa | m  | Pa | g         | m  | Pa | m  | Pa    |
|           |    |    |    |       |           |    |    |    |    |           |    |    |    |       |
| 1         | 0  | 51 | 26 | 0 27  | 31        | 27 | 52 | 15 | 1  | 61        | 51 | 49 | 22 | 36 48 |
| 2         | 1  | 47 | 51 | 0 54  | 32        | 18 | 26 | 15 | 25 | 62        | 52 | 31 | 19 | 37 46 |
| 3         | 2  | 41 | 46 | 1 21  | 33        | 29 | 18 | 16 | 9  | 63        | 53 | 12 | 4  | 38 44 |
| 4         | 3  | 35 | 41 | 1 48  | 34        | 30 | 10 | 16 | 43 | 64        | 54 | 39 | 42 | 39 42 |
| 5         | 4  | 29 | 34 | 2 16  | 35        | 31 | 1  | 17 | 20 | 65        | 54 | 12 | 46 | 40 42 |
| 6         | 5  | 23 | 27 | 2 43  | 36        | 31 | 51 | 17 | 54 | 66        | 55 | 11 | 37 | 41 44 |
| 7         | 6  | 17 | 19 | 3 10  | 37        | 32 | 44 | 18 | 32 | 67        | 55 | 49 | 35 | 42 45 |
| 8         | 7  | 11 | 9  | 3 37  | 38        | 33 | 35 | 19 | 7  | 68        | 56 | 26 | 39 | 43 45 |
| 9         | 8  | 4  | 57 | 4 6   | 39        | 34 | 26 | 19 | 45 | 69        | 57 | 2  | 41 | 44 46 |
| 10        | 8  | 58 | 44 | 4 33  | 40        | 35 | 17 | 20 | 23 | 70        | 57 | 37 | 40 | 45 49 |
| 11        | 9  | 52 | 29 | 5 1   | 41        | 36 | 7  | 21 | 2  | 71        | 58 | 11 | 34 | 46 51 |
| 12        | 10 | 46 | 12 | 5 28  | 42        | 36 | 58 | 17 | 41 | 72        | 58 | 44 | 17 | 47 51 |
| 13        | 11 | 39 | 51 | 5 57  | 43        | 37 | 48 | 22 | 21 | 73        | 59 | 15 | 46 | 48 54 |
| 14        | 12 | 33 | 41 | 6 25  | 44        | 38 | 38 | 23 | 1  | 74        | 59 | 45 | 36 | 49 57 |
| 15        | 13 | 27 | 6  | 6 53  | 45        | 39 | 27 | 24 | 43 | 75        | 60 | 14 | 40 | 50 58 |
| 16        | 14 | 20 | 18 | 7 21  | 46        | 40 | 16 | 24 | 26 | 76        | 60 | 42 | 34 | 51 54 |
| 17        | 15 | 14 | 7  | 7 49  | 47        | 41 | 5  | 25 | 9  | 77        | 61 | 8  | 6  | 52 51 |
| 18        | 16 | 7  | 32 | 8 18  | 48        | 41 | 54 | 25 | 53 | 78        | 61 | 32 | 25 | 53 47 |
| 19        | 17 | 0  | 51 | 8 48  | 49        | 42 | 42 | 26 | 37 | 79        | 64 | 55 | 7  | 54 42 |
| 20        | 17 | 54 | 10 | 9 18  | 50        | 43 | 30 | 27 | 23 | 80        | 62 | 16 | 7  | 55 32 |
| 21        | 18 | 47 | 24 | 9 47  | 51        | 44 | 18 | 28 | 9  | 81        | 62 | 35 | 22 | 56 18 |
| 22        | 19 | 40 | 11 | 10 16 | 52        | 45 | 5  | 28 | 58 | 82        | 62 | 52 | 45 | 57 2  |
| 23        | 20 | 33 | 17 | 10 46 | 53        | 45 | 24 | 29 | 46 | 83        | 63 | 8  | 16 | 57 40 |
| 24        | 21 | 26 | 34 | 11 18 | 54        | 46 | 18 | 30 | 35 | 84        | 63 | 21 | 50 | 58 16 |
| 25        | 22 | 19 | 27 | 11 49 | 55        | 47 | 14 | 31 | 25 | 85        | 64 | 33 | 24 | 58 47 |
| 26        | 23 | 12 | 14 | 12 20 | 56        | 48 | 10 | 32 | 16 | 86        | 64 | 42 | 35 | 59 14 |
| 27        | 24 | 4  | 54 | 12 52 | 57        | 48 | 55 | 33 | 8  | 87        | 65 | 50 | 22 | 59 35 |
| 28        | 24 | 57 | 30 | 13 23 | 58        | 49 | 19 | 34 | 2  | 88        | 65 | 55 | 42 | 59 50 |
| 29        | 25 | 49 | 58 | 13 55 | 59        | 50 | 23 | 34 | 58 | 89        | 65 | 58 | 55 | 59 59 |
| 30        | 26 | 42 | 18 | 14 28 | 60        | 51 | 6  | 35 | 52 | 90        | 64 | 0  | 0  | 60 0  |

| ARCUS    |    |    |    |            | ARCUS    |    |    |    |            | ARCUS    |    |    |    |            |
|----------|----|----|----|------------|----------|----|----|----|------------|----------|----|----|----|------------|
| Defectio |    |    |    |            | Defectio |    |    |    |            | Defectio |    |    |    |            |
| Arcus    |    |    |    |            | Arcus    |    |    |    |            | Arcus    |    |    |    |            |
| Defectio | g  | m  | Pa | Lat. ratio | Defectio | g  | m  | Pa | Lat. ratio | Defectio | g  | m  | Pa | Lat. ratio |
| 1        | 0  | 54 | 23 | 0 26       | 31       | 27 | 49 | 32 | 14 31      | 61       | 52 | 26 | 10 | 35 30      |
| 2        | 1  | 48 | 45 | 0 52       | 32       | 28 | 42 | 39 | 15 3       | 62       | 53 | 9  | 5  | 36 55      |
| 3        | 2  | 41 | 7  | 1 19       | 33       | 29 | 34 | 42 | 15 36      | 63       | 54 | 51 | 18 | 37 52      |
| 4        | 3  | 37 | 29 | 1 44       | 34       | 30 | 27 | 4  | 16 10      | 64       | 54 | 32 | 46 | 38 51      |
| 5        | 4  | 31 | 50 | 2 10       | 35       | 31 | 19 | 17 | 16 43      | 65       | 55 | 13 | 28 | 39 51      |
| 6        | 5  | 26 | 10 | 2 37       | 36       | 32 | 11 | 20 | 17 18      | 66       | 55 | 51 | 31 | 40 51      |
| 7        | 6  | 20 | 29 | 3 3        | 37       | 33 | 3  | 15 | 17 51      | 67       | 56 | 32 | 20 | 41 56      |
| 8        | 7  | 14 | 46 | 3 30       | 38       | 33 | 24 | 28 | 18 30      | 68       | 57 | 10 | 23 | 43 0       |
| 9        | 8  | 9  | 3  | 3 55       | 39       | 34 | 46 | 31 | 19 5       | 69       | 57 | 47 | 27 | 44 3       |
| 10       | 9  | 3  | 17 | 4 22       | 40       | 35 | 37 | 51 | 19 43      | 70       | 58 | 23 | 29 | 45 6       |
| 11       | 9  | 57 | 30 | 4 49       | 41       | 36 | 29 | 1  | 20 21      | 71       | 58 | 50 | 26 | 46 9       |
| 12       | 10 | 51 | 40 | 5 16       | 42       | 37 | 19 | 30 | 20 59      | 72       | 59 | 32 | 10 | 47 15      |
| 13       | 11 | 45 | 30 | 5 42       | 43       | 38 | 10 | 39 | 21 38      | 73       | 59 | 4  | 40 | 48 18      |
| 14       | 12 | 39 | 36 | 6 9        | 44       | 39 | 1  | 7  | 22 18      | 74       | 60 | 15 | 57 | 49 22      |
| 15       | 13 | 33 | 59 | 6 37       | 45       | 39 | 51 | 21 | 22 59      | 75       | 61 | 5  | 44 | 50 23      |
| 16       | 14 | 27 | 52 | 7 5        | 46       | 40 | 41 | 18 | 23 40      | 76       | 61 | 34 | 6  | 51 26      |
| 17       | 15 | 21 | 56 | 7 31       | 47       | 41 | 30 | 38 | 24 23      | 77       | 62 | 0  | 57 | 52 27      |
| 18       | 16 | 15 | 50 | 8 1        | 48       | 42 | 20 | 21 | 25 6       | 78       | 62 | 26 | 12 | 53 25      |
| 19       | 17 | 9  | 41 | 8 29       | 49       | 43 | 9  | 23 | 25 50      | 79       | 62 | 49 | 49 | 54 19      |
| 20       | 18 | 3  | 28 | 8 57       | 50       | 43 | 58 | 9  | 26 35      | 80       | 63 | 11 | 39 | 55 12      |
| 21       | 18 | 57 | 10 | 9 27       | 51       | 44 | 46 | 32 | 27 21      | 81       | 63 | 31 | 40 | 56 1       |
| 22       | 19 | 50 | 49 | 9 56       | 52       | 45 | 34 | 34 | 28 8       | 82       | 63 | 49 | 47 | 56 51      |
| 23       | 20 | 44 | 21 | 10 24      | 53       | 46 | 22 | 12 | 28 55      | 83       | 64 | 5  | 56 | 57 34      |
| 24       | 21 | 37 | 52 | 10 51      | 54       | 47 | 9  | 24 | 29 45      | 84       | 64 | 20 | 6  | 58 10      |
| 25       | 22 | 31 | 16 | 11 21      | 55       | 47 | 56 | 11 | 30 36      | 85       | 64 | 32 | 11 | 58 43      |
| 26       | 23 | 24 | 34 | 11 51      | 56       | 48 | 42 | 31 | 31 26      | 86       | 64 | 42 | 9  | 59 9       |
| 27       | 24 | 17 | 46 | 12 25      | 57       | 49 | 28 | 21 | 32 17      | 87       | 64 | 49 | 57 | 59 30      |
| 28       | 25 | 10 | 53 | 12 55      | 58       | 50 | 13 | 39 | 33 12      | 88       | 64 | 55 | 32 | 59 46      |
| 29       | 26 | 3  | 53 | 13 27      | 59       | 50 | 58 | 26 | 34 4       | 89       | 64 | 58 | 54 | 59 55      |
| 30       | 26 | 56 | 46 | 13 58      | 60       | 51 | 42 | 36 | 35 0       | 90       | 65 | 0  | 0  | 60 0       |

| Dekadetes. | ARCUS |    |    |       | Differētia<br>Zate-<br>ratio. | Dekadetes. | ARCUS |       |       |      | Differētia<br>Zate-<br>ratio. | Dekadetes. | ARCUS |    |        |      | Differētia<br>Zate-<br>ratio. |
|------------|-------|----|----|-------|-------------------------------|------------|-------|-------|-------|------|-------------------------------|------------|-------|----|--------|------|-------------------------------|
|            | g     | m  | Pa | m Pa  |                               |            | g     | m     | Pa    | m Pa |                               |            | g     | m  | Pa     | m Pa |                               |
| 1          | 0     | 54 | 49 | 0 25  |                               | 31         | 28    | 4     | 14 2  |      | 61                            | 53         | 2     | 7  | 35 2   |      |                               |
| 2          | 1     | 49 | 37 | 1 50  |                               | 32         | 28    | 57 14 | 14 11 |      | 62                            | 54         | 46    | 0  | 35 58  |      |                               |
| 3          | 2     | 44 | 26 | 1 15  |                               | 33         | 29    | 50 18 | 15 2  |      | 63                            | 54         | 29    | 10 | 36 58  |      |                               |
| 4          | 3     | 39 | 11 | 2 41  |                               | 34         | 30    | 43 13 | 15 35 |      | 64                            | 55         | 11    | 37 | 37 58  |      |                               |
| 5          | 4     | 34 | 0  | 2 6   |                               | 35         | 31    | 36 0  | 16 9  |      | 65                            | 55         | 53    | 21 | 38 59  |      |                               |
| 6          | 5     | 28 | 47 | 2 30  |                               | 36         | 32    | 28 18 | 16 42 |      | 66                            | 56         | 14    | 14 | 40 2   |      |                               |
| 7          | 6     | 21 | 32 | 2 56  |                               | 37         | 33    | 21 8  | 17 16 |      | 67                            | 57         | 14    | 16 | 7 41 5 |      |                               |
| 8          | 7     | 18 | 16 | 3 21  |                               | 38         | 34    | 11 28 | 17 50 |      | 68                            | 57         | 54    | 21 | 42 8   |      |                               |
| 9          | 8     | 12 | 58 | 3 47  |                               | 39         | 35    | 5 16  | 18 26 |      | 69                            | 58         | 31    | 30 | 43 13  |      |                               |
| 10         | 9     | 7  | 39 | 4 13  |                               | 40         | 35    | 57 48 | 19 2  |      | 70                            | 59         | 8     | 15 | 44 19  |      |                               |
| 11         | 10    | 2  | 19 | 4 38  |                               | 41         | 36    | 49 22 | 19 38 |      | 71                            | 59         | 44    | 35 | 45 25  |      |                               |
| 12         | 10    | 56 | 56 | 5 5   |                               | 42         | 37    | 40 56 | 20 16 |      | 72                            | 60         | 19    | 25 | 46 30  |      |                               |
| 13         | 11    | 51 | 32 | 5 30  |                               | 43         | 38    | 32 17 | 20 55 |      | 73                            | 60         | 52    | 58 | 47 37  |      |                               |
| 14         | 12    | 46 | 5  | 5 57  |                               | 44         | 39    | 23 25 | 21 35 |      | 74                            | 61         | 25    | 15 | 48 42  |      |                               |
| 15         | 13    | 40 | 36 | 6 21  |                               | 45         | 40    | 14 30 | 22 13 |      | 75                            | 61         | 56    | 7  | 49 48  |      |                               |
| 16         | 14    | 35 | 4  | 6 49  |                               | 46         | 41    | 4 58  | 22 54 |      | 76                            | 62         | 25    | 32 | 50 52  |      |                               |
| 17         | 15    | 29 | 29 | 7 16  |                               | 47         | 41    | 50 21 | 23 35 |      | 77                            | 62         | 53    | 24 | 51 54  |      |                               |
| 18         | 16    | 21 | 51 | 7 43  |                               | 48         | 42    | 45 27 | 24 18 |      | 78                            | 63         | 19    | 37 | 52 57  |      |                               |
| 19         | 17    | 18 | 10 | 8 10  |                               | 49         | 43    | 37 15 | 25 1  |      | 79                            | 63         | 44    | 8  | 53 56  |      |                               |
| 20         | 18    | 12 | 25 | 8 37  |                               | 50         | 44    | 24 44 | 25 45 |      | 80                            | 64         | 6     | 51 | 54 54  |      |                               |
| 21         | 19    | 6  | 37 | 9 5   |                               | 51         | 45    | 11 53 | 26 30 |      | 81                            | 64         | 27    | 40 | 55 48  |      |                               |
| 22         | 20    | 0  | 45 | 9 32  |                               | 52         | 46    | 2 42  | 27 16 |      | 82                            | 64         | 46    | 57 | 56 34  |      |                               |
| 23         | 20    | 54 | 47 | 10 1  |                               | 53         | 46    | 51 7  | 28 4  |      | 83                            | 65         | 3     | 30 | 57 19  |      |                               |
| 24         | 21    | 48 | 43 | 10 30 |                               | 54         | 47    | 39 9  | 28 52 |      | 84                            | 65         | 19    | 16 | 58 1   |      |                               |
| 25         | 22    | 42 | 19 | 10 58 |                               | 55         | 48    | 36 47 | 29 41 |      | 85                            | 65         | 30    | 54 | 58 35  |      |                               |
| 26         | 23    | 36 | 27 | 11 27 |                               | 56         | 49    | 13 57 | 30 31 |      | 86                            | 65         | 41    | 18 | 59 5   |      |                               |
| 27         | 24    | 30 | 11 | 11 57 |                               | 57         | 50    | 0 18  | 31 24 |      | 87                            | 65         | 49    | 27 | 59 30  |      |                               |
| 28         | 25    | 21 | 49 | 12 26 |                               | 58         | 50    | 46 51 | 32 16 |      | 88                            | 65         | 55    | 18 | 59 47  |      |                               |
| 29         | 26    | 17 | 20 | 12 57 |                               | 59         | 51    | 32 30 | 33 10 |      | 89                            | 65         | 58    | 49 | 59 57  |      |                               |
| 30         | 27    | 10 | 44 | 13 28 |                               | 60         | 52    | 17 36 | 34 5  |      | 90                            | 66         | 0     | 0  | 60 0   |      |                               |

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|---------------|----|----|----|-------|---------------|----|----|----|-------|---------------|----|----|----|-------|
| Arcus         |    |    |    |       | Arcus         |    |    |    |       | Arcus         |    |    |    |       |
| Lat-<br>ratio |    |    |    |       | Lat-<br>ratio |    |    |    |       | Lat-<br>ratio |    |    |    |       |
| m fa          |    |    |    |       | m fa          |    |    |    |       | m fa          |    |    |    |       |
| 1             | 0  | 35 | 14 | 0 24  | 31            | 28 | 18 | 5  | 13 27 | 61            | 51 | 37 | 9  | 34 5  |
| 2             | 1  | 50 | 27 | 0 47  | 32            | 29 | 11 | 45 | 13 52 | 62            | 54 | 21 | 58 | 35 3  |
| 3             | 2  | 45 | 41 | 1 12  | 33            | 30 | 5  | 29 | 14 29 | 63            | 55 | 6  | 8  | 36 3  |
| 4             | 3  | 40 | 54 | 1 16  | 34            | 30 | 50 | 48 | 15 0  | 64            | 55 | 49 | 35 | 37 4  |
| 5             | 4  | 36 | 6  | 2 0   | 35            | 31 | 52 | 9  | 15 31 | 65            | 56 | 32 | 20 | 38 3  |
| 6             | 5  | 31 | 17 | 2 25  | 36            | 32 | 45 | 20 | 16 6  | 66            | 57 | 14 | 16 | 39 7  |
| 7             | 6  | 26 | 28 | 2 49  | 37            | 33 | 38 | 24 | 16 38 | 67            | 57 | 55 | 21 | 40 10 |
| 8             | 7  | 21 | 37 | 3 11  | 38            | 34 | 31 | 18 | 17 12 | 68            | 58 | 13 | 31 | 41 15 |
| 9             | 8  | 16 | 45 | 3 18  | 39            | 35 | 24 | 2  | 17 46 | 69            | 59 | 14 | 41 | 42 22 |
| 10            | 9  | 11 | 52 | 4 2   | 40            | 36 | 16 | 36 | 18 22 | 70            | 59 | 32 | 54 | 43 29 |
| 11            | 10 | 6  | 57 | 4 27  | 41            | 37 | 9  | 0  | 18 57 | 71            | 60 | 10 | 0  | 44 36 |
| 12            | 11 | 2  | 1  | 4 51  | 42            | 38 | 1  | 12 | 19 11 | 72            | 61 | 5  | 55 | 45 45 |
| 13            | 11 | 57 | 2  | 5 17  | 43            | 38 | 51 | 12 | 20 10 | 73            | 61 | 40 | 15 | 46 54 |
| 14            | 12 | 52 | 2  | 5 42  | 44            | 39 | 45 | 0  | 20 48 | 74            | 62 | 13 | 57 | 48 2  |
| 15            | 13 | 46 | 50 | 6 7   | 45            | 40 | 36 | 13 | 21 27 | 75            | 62 | 45 | 55 | 49 9  |
| 16            | 14 | 41 | 51 | 6 33  | 46            | 41 | 27 | 54 | 22 5  | 76            | 63 | 16 | 24 | 50 15 |
| 17            | 15 | 36 | 43 | 6 58  | 47            | 42 | 18 | 56 | 22 47 | 77            | 63 | 45 | 18 | 51 22 |
| 18            | 16 | 31 | 34 | 7 24  | 48            | 43 | 9  | 45 | 23 28 | 78            | 64 | 12 | 34 | 52 26 |
| 19            | 17 | 26 | 20 | 7 50  | 49            | 44 | 0  | 16 | 24 10 | 79            | 64 | 38 | 4  | 53 30 |
| 20            | 18 | 21 | 2  | 8 17  | 50            | 44 | 50 | 29 | 24 51 | 80            | 65 | 1  | 43 | 54 28 |
| 21            | 19 | 15 | 42 | 8 44  | 51            | 45 | 40 | 23 | 25 19 | 81            | 65 | 21 | 29 | 55 26 |
| 22            | 20 | 10 | 47 | 9 10  | 52            | 46 | 29 | 58 | 26 33 | 82            | 65 | 41 | 12 | 56 18 |
| 23            | 21 | 4  | 48 | 9 37  | 53            | 47 | 19 | 11 | 27 9  | 83            | 66 | 0  | 49 | 57 8  |
| 24            | 21 | 59 | 15 | 10 4  | 54            | 48 | 8  | 1  | 27 59 | 84            | 66 | 16 | 17 | 57 52 |
| 25            | 22 | 51 | 37 | 10 33 | 55            | 48 | 56 | 28 | 28 16 | 85            | 66 | 29 | 29 | 58 31 |
| 26            | 23 | 47 | 24 | 11 1  | 56            | 49 | 44 | 28 | 29 36 | 86            | 66 | 40 | 23 | 59 3  |
| 27            | 24 | 42 | 8  | 11 29 | 57            | 50 | 32 | 2  | 30 28 | 87            | 66 | 48 | 57 | 59 26 |
| 28            | 25 | 36 | 15 | 11 58 | 58            | 51 | 19 | 7  | 31 20 | 88            | 66 | 55 | 5  | 59 44 |
| 29            | 26 | 30 | 17 | 12 27 | 59            | 52 | 5  | 40 | 32 11 | 89            | 66 | 58 | 46 | 59 56 |
| 30            | 27 | 24 | 12 | 12 57 | 60            | 52 | 31 | 41 | 33 8  | 90            | 67 | 0  | 0  | 60 0  |

| Defectives. | ARACUS |    |    |       |             | Diff<br>fere<br>tia<br>Rate<br>ratio. | ARACUS |    |    |       |             | Diff<br>fere<br>tia<br>Rate<br>ratio. | ARACUS |    |    |       |  | Diff<br>fere<br>tia<br>Rate<br>ratio. |
|-------------|--------|----|----|-------|-------------|---------------------------------------|--------|----|----|-------|-------------|---------------------------------------|--------|----|----|-------|--|---------------------------------------|
|             | g      | m  | fa | m fa  | Defectives. |                                       | g      | m  | fa | m fa  | Defectives. |                                       | g      | m  | fa | m fa  |  |                                       |
| 1           | 0      | 55 | 48 | 0 23  |             | 31                                    | 28     | 31 | 32 | 12 50 |             | 61                                    | 54     | 11 | 14 | 33 5  |  |                                       |
|             |        | 55 | 38 |       |             |                                       |        | 54 | 10 |       |             |                                       |        | 45 | 47 |       |  |                                       |
| 2           | 1      | 51 | 16 | 0 46  |             | 32                                    | 29     | 25 | 42 | 13 23 |             | 62                                    | 54     | 57 | 1  | 34 2  |  |                                       |
|             |        | 55 | 17 |       |             |                                       |        | 54 | 6  |       |             |                                       |        | 45 | 10 |       |  |                                       |
| 3           | 2      | 46 | 51 | 1 2   |             | 33                                    | 30     | 19 | 48 | 13 54 |             | 63                                    | 55     | 42 | 11 | 35 2  |  |                                       |
|             |        | 55 | 37 |       |             |                                       |        | 54 | 0  |       |             |                                       |        | 44 | 28 |       |  |                                       |
| 4           | 3      | 42 | 30 | 1 32  |             | 34                                    | 31     | 13 | 48 | 14 24 |             | 64                                    | 56     | 26 | 39 | 36 2  |  |                                       |
|             |        | 55 | 36 |       |             |                                       |        | 51 | 52 |       |             |                                       |        | 43 | 44 |       |  |                                       |
| 5           | 4      | 38 | 6  | 1 56  |             | 35                                    | 32     | 7  | 40 | 14 55 |             | 65                                    | 57     | 10 | 23 | 37 4  |  |                                       |
|             |        | 55 | 35 |       |             |                                       |        | 51 | 46 |       |             |                                       |        | 43 | 0  |       |  |                                       |
| 6           | 5      | 33 | 42 | 2 19  |             | 36                                    | 33     | 1  | 26 | 15 26 |             | 66                                    | 57     | 53 | 23 | 38 7  |  |                                       |
|             |        | 55 | 35 |       |             |                                       |        | 51 | 36 |       |             |                                       |        | 42 | 8  |       |  |                                       |
| 7           | 6      | 29 | 17 | 2 41  |             | 37                                    | 34     | 55 | 2  | 15 58 |             | 67                                    | 58     | 35 | 31 | 39 12 |  |                                       |
|             |        | 55 | 33 |       |             |                                       |        | 51 | 28 |       |             |                                       |        | 41 | 15 |       |  |                                       |
| 8           | 7      | 24 | 50 | 3 6   |             | 38                                    | 34     | 48 | 30 | 16 31 |             | 68                                    | 59     | 16 | 46 | 40 19 |  |                                       |
|             |        | 55 | 31 |       |             |                                       |        | 51 | 18 |       |             |                                       |        | 40 | 19 |       |  |                                       |
| 9           | 8      | 20 | 23 | 3 29  |             | 39                                    | 35     | 41 | 48 | 17 4  |             | 69                                    | 59     | 57 | 5  | 41 26 |  |                                       |
|             |        | 55 | 31 |       |             |                                       |        | 51 | 10 |       |             |                                       |        | 39 | 18 |       |  |                                       |
| 10          | 9      | 15 | 34 | 3 52  |             | 40                                    | 36     | 34 | 58 | 17 38 |             | 70                                    | 60     | 36 | 23 | 42 35 |  |                                       |
|             |        | 55 | 30 |       |             |                                       |        | 52 | 59 |       |             |                                       |        | 38 | 13 |       |  |                                       |
| 11          | 10     | 11 | 24 | 4 16  |             | 41                                    | 37     | 27 | 57 | 18 13 |             | 71                                    | 61     | 14 | 36 | 43 43 |  |                                       |
|             |        | 55 | 28 |       |             |                                       |        | 52 | 48 |       |             |                                       |        | 37 | 4  |       |  |                                       |
| 12          | 11     | 6  | 52 | 4 40  |             | 42                                    | 38     | 20 | 45 | 18 48 |             | 72                                    | 61     | 51 | 40 |       |  |                                       |
|             |        | 55 | 27 |       |             |                                       |        | 52 | 37 |       |             |                                       |        | 35 | 29 | 44 54 |  |                                       |
| 13          | 12     | 2  | 19 | 5 4   |             | 43                                    | 39     | 13 | 22 | 19 24 |             | 73                                    | 62     | 27 | 29 |       |  |                                       |
|             |        | 55 | 25 |       |             |                                       |        | 52 | 26 |       |             |                                       |        | 34 | 10 | 46 4  |  |                                       |
| 14          | 12     | 57 | 44 | 5 27  |             | 44                                    | 40     | 5  | 48 | 20 1  |             | 74                                    | 63     | 1  | 50 |       |  |                                       |
|             |        | 55 | 22 |       |             |                                       |        | 52 | 12 |       |             |                                       |        | 33 | 5  | 47 14 |  |                                       |
| 15          | 13     | 53 | 6  | 5 52  |             | 45                                    | 40     | 54 | 0  | 20 38 |             | 75                                    | 63     | 35 | 4  |       |  |                                       |
|             |        | 55 | 20 |       |             |                                       |        | 51 | 57 |       |             |                                       |        | 31 | 35 | 48 25 |  |                                       |
| 16          | 14     | 48 | 26 | 6 16  |             | 46                                    | 41     | 49 | 57 | 21 18 |             | 76                                    | 64     | 6  | 39 |       |  |                                       |
|             |        | 55 | 17 |       |             |                                       |        | 51 | 46 |       |             |                                       |        | 30 | 1  | 49 38 |  |                                       |
| 17          | 15     | 43 | 43 | 6 41  |             | 47                                    | 42     | 41 | 43 | 21 57 |             | 77                                    | 64     | 36 | 40 |       |  |                                       |
|             |        | 55 | 15 |       |             |                                       |        | 51 | 30 |       |             |                                       |        | 28 | 20 | 50 47 |  |                                       |
| 18          | 16     | 38 | 58 | 7 6   |             | 48                                    | 43     | 33 | 13 | 22 37 |             | 78                                    | 65     | 5  | 0  |       |  |                                       |
|             |        | 55 | 12 |       |             |                                       |        | 51 | 13 |       |             |                                       |        | 26 | 34 | 51 54 |  |                                       |
| 19          | 17     | 34 | 10 | 7 30  |             | 49                                    | 44     | 24 | 26 | 23 18 |             | 79                                    | 65     | 31 | 34 |       |  |                                       |
|             |        | 55 | 9  |       |             |                                       |        | 50 | 56 |       |             |                                       |        | 24 | 39 | 52 59 |  |                                       |
| 20          | 18     | 29 | 19 | 7 56  |             | 50                                    | 45     | 15 | 22 | 24 2  |             | 80                                    | 65     | 56 | 13 |       |  |                                       |
|             |        | 55 | 6  |       |             |                                       |        | 50 | 40 |       |             |                                       |        | 22 | 42 | 54 5  |  |                                       |
| 21          | 19     | 24 | 25 | 8 22  |             | 51                                    | 46     | 6  | 2  | 24 44 |             | 81                                    | 66     | 18 | 35 |       |  |                                       |
|             |        | 55 | 2  |       |             |                                       |        | 50 | 19 |       |             |                                       |        | 20 | 35 | 55 5  |  |                                       |
| 22          | 20     | 19 | 27 | 8 47  |             | 52                                    | 46     | 56 | 21 | 25 39 |             | 82                                    | 66     | 39 | 30 |       |  |                                       |
|             |        | 54 | 58 |       |             |                                       |        | 49 | 59 |       |             |                                       |        | 18 | 27 | 56 2  |  |                                       |
| 23          | 21     | 14 | 25 | 9 13  |             | 53                                    | 47     | 46 | 20 | 26 16 |             | 83                                    | 66     | 57 | 57 |       |  |                                       |
|             |        | 54 | 54 |       |             |                                       |        | 42 | 40 |       |             |                                       |        | 16 | 12 | 56 54 |  |                                       |
| 24          | 22     | 9  | 19 | 9 48  |             | 54                                    | 48     | 36 | 0  | 27 0  |             | 84                                    | 67     | 14 | 9  |       |  |                                       |
|             |        | 54 | 51 |       |             |                                       |        | 49 | 14 |       |             |                                       |        | 13 | 51 | 57 39 |  |                                       |
| 25          | 23     | 4  | 10 | 10 6  |             | 55                                    | 49     | 25 | 14 | 27 50 |             | 85                                    | 67     | 28 | 0  |       |  |                                       |
|             |        | 54 | 45 |       |             |                                       |        | 48 | 50 |       |             |                                       |        | 11 | 26 | 58 20 |  |                                       |
| 26          | 23     | 58 | 55 | 10 33 |             | 56                                    | 50     | 14 | 4  | 28 41 |             | 86                                    | 67     | 39 | 26 |       |  |                                       |
|             |        | 54 | 42 |       |             |                                       |        | 48 | 26 |       |             |                                       |        | 8  | 57 | 58 55 |  |                                       |
| 27          | 24     | 51 | 37 | 11 1  |             | 57                                    | 51     | 2  | 30 | 29 29 |             | 87                                    | 67     | 48 | 23 |       |  |                                       |
|             |        | 54 | 36 |       |             |                                       |        | 47 | 57 |       |             |                                       |        | 6  | 26 | 59 24 |  |                                       |
| 28          | 25     | 48 | 13 | 11 29 |             | 58                                    | 51     | 50 | 27 | 30 20 |             | 88                                    | 67     | 54 | 40 |       |  |                                       |
|             |        | 54 | 31 |       |             |                                       |        | 47 | 26 |       |             |                                       |        | 3  | 51 | 59 46 |  |                                       |
| 29          | 26     | 42 | 44 | 11 56 |             | 59                                    | 52     | 17 | 53 | 31 16 |             | 89                                    | 67     | 36 | 42 |       |  |                                       |
|             |        | 54 | 25 |       |             |                                       |        | 46 | 57 |       |             |                                       |        | 1  | 18 | 59 58 |  |                                       |
| 30          | 27     | 37 | 9  | 12 25 |             | 60                                    | 53     | 24 | 50 | 32 10 |             | 90                                    | 68     | 0  | 0  |       |  |                                       |
|             |        | 54 | 23 |       |             |                                       |        | 46 | 24 |       |             |                                       |        | 0  | 0  | 60 0  |  |                                       |

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| Defectus |    |    |    |       | Defectus |    |    |    |       | Defectus |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| R        | S  | m  | fa | m fa  | R        | S  | m  | fa | m fa  | R        | S  | m  | fa | m fa  |
| 1        | 0  | 56 | 1  | 0 22  | 31       | 28 | 44 | 22 | 12 21 | 61       | 54 | 44 | 19 |       |
| 2        | 1  | 52 | 2  | 0 44  | 32       | 29 | 39 | 5  | 12 50 | 62       | 55 | 31 | 4  | 32 3  |
| 3        | 2  | 48 | 2  | 1 6   | 33       | 30 | 33 | 42 | 13 18 | 63       | 56 | 17 | 12 | 33 0  |
| 4        | 3  | 44 | 2  | 1 28  | 34       | 31 | 28 | 12 | 13 47 | 64       | 57 | 2  | 41 | 33 58 |
| 5        | 4  | 40 | 2  | 1 50  | 35       | 32 | 22 | 35 | 14 18 | 65       | 57 | 44 | 46 | 34 59 |
| 6        | 5  | 36 | 1  | 2 12  | 36       | 33 | 16 | 52 | 14 48 | 66       | 58 | 31 | 30 | 36 2  |
| 7        | 6  | 31 | 58 | 2 35  | 37       | 34 | 11 | 0  | 15 19 | 67       | 59 | 14 | 63 | 37 5  |
| 8        | 7  | 27 | 56 | 2 57  | 38       | 35 | 5  | 51 | 15 49 | 68       | 59 | 57 | 5  | 37 18 |
| 9        | 8  | 23 | 52 | 3 18  | 39       | 35 | 58 | 52 | 16 22 | 69       | 60 | 38 | 31 | 40 27 |
| 10       | 9  | 19 | 46 | 3 42  | 40       | 36 | 52 | 36 | 16 55 | 70       | 61 | 18 | 58 | 41 36 |
| 11       | 10 | 15 | 40 | 4 4   | 41       | 37 | 46 | 10 | 17 28 | 71       | 61 | 58 | 19 | 42 47 |
| 12       | 11 | 11 | 32 | 4 26  | 42       | 38 | 39 | 33 | 18 2  | 72       | 62 | 36 | 34 | 43 57 |
| 13       | 12 | 7  | 21 | 4 50  | 43       | 39 | 32 | 46 | 18 38 | 73       | 63 | 13 | 33 | 45 10 |
| 14       | 13 | 1  | 11 | 5 13  | 44       | 40 | 25 | 49 | 19 12 | 74       | 63 | 69 | 13 | 46 25 |
| 15       | 13 | 58 | 58 | 5 36  | 45       | 41 | 18 | 38 | 19 50 | 75       | 64 | 23 | 29 | 47 40 |
| 16       | 14 | 54 | 42 | 6 0   | 46       | 42 | 11 | 15 | 20 28 | 76       | 64 | 56 | 17 | 48 52 |
| 17       | 15 | 50 | 24 | 6 21  | 47       | 43 | 3  | 40 | 21 6  | 77       | 65 | 27 | 27 | 50 4  |
| 18       | 16 | 46 | 4  | 6 47  | 48       | 43 | 55 | 50 | 21 45 | 78       | 65 | 56 | 54 | 51 18 |
| 19       | 17 | 41 | 40 | 7 11  | 49       | 44 | 47 | 44 | 22 26 | 79       | 66 | 24 | 33 | 52 28 |
| 20       | 18 | 37 | 15 | 7 34  | 50       | 45 | 39 | 24 | 23 7  | 80       | 66 | 50 | 18 | 53 34 |
| 21       | 19 | 32 | 47 | 7 59  | 51       | 46 | 30 | 46 | 23 49 | 81       | 67 | 14 | 0  | 54 38 |
| 22       | 20 | 28 | 14 | 8 24  | 52       | 47 | 21 | 50 | 24 12 | 82       | 67 | 35 | 32 | 55 41 |
| 23       | 21 | 23 | 18 | 8 50  | 53       | 48 | 12 | 36 | 25 17 | 83       | 67 | 54 | 51 | 56 16 |
| 24       | 22 | 18 | 59 | 9 15  | 54       | 49 | 1  | 0  | 26 3  | 84       | 68 | 11 | 48 | 57 29 |
| 25       | 23 | 14 | 16 | 9 40  | 55       | 49 | 51 | 4  | 26 50 | 85       | 68 | 26 | 26 | 58 14 |
| 26       | 24 | 9  | 28 | 10 6  | 56       | 50 | 42 | 45 | 27 38 | 86       | 68 | 38 | 21 | 58 51 |
| 27       | 25 | 4  | 38 | 10 32 | 57       | 51 | 31 | 59 | 28 28 | 87       | 68 | 47 | 47 | 59 20 |
| 28       | 25 | 59 | 42 | 10 58 | 58       | 52 | 20 | 47 | 29 21 | 88       | 68 | 54 | 15 | 59 41 |
| 29       | 26 | 54 | 40 | 11 26 | 59       | 53 | 9  | 9  | 30 13 | 89       | 68 | 58 | 40 | 59 54 |
| 30       | 27 | 49 | 34 | 11 51 | 60       | 53 | 57 | 0  | 31 7  | 90       | 69 | 0  | 0  | 60 0  |



| ARCUS         |            |               |            |               | ARCUS      |               |            |               |            | ARCUS         |            |               |            |       |
|---------------|------------|---------------|------------|---------------|------------|---------------|------------|---------------|------------|---------------|------------|---------------|------------|-------|
| Arcuales      |            |               |            |               | Arcuales   |               |            |               |            | Arcuales      |            |               |            |       |
| Def. fer. tia | Lat. ratio | Def. fer. tia | Lat. ratio | Def. fer. tia | Lat. ratio | Def. fer. tia | Lat. ratio | Def. fer. tia | Lat. ratio | Def. fer. tia | Lat. ratio | Def. fer. tia | Lat. ratio |       |
| 1             | 0          | 56            | 21         | 0 21          | 31         | 28            | 56         | 43            | 11 49      | 61            | 55         | 16            | 21         | 30 58 |
| 2             | 1          | 52            | 46         | 0 42          | 32         | 29            | 51         | 55            | 12 15      | 62            | 56         | 4             | 4          | 31 54 |
| 3             | 2          | 49            | 8          | 1 3           | 33         | 30            | 47         | 0             | 12 43      | 63            | 56         | 51            | 11         | 32 53 |
| 4             | 3          | 45            | 30         | 1 24          | 34         | 31            | 41         | 59            | 13 11      | 64            | 57         | 37            | 40         | 33 54 |
| 5             | 4          | 41            | 52         | 1 45          | 35         | 32            | 36         | 53            | 13 39      | 65            | 58         | 23            | 29         | 34 52 |
| 6             | 5          | 38            | 13         | 2 6           | 36         | 33            | 31         | 40            | 14 8       | 66            | 59         | 8             | 35         | 35 50 |
| 7             | 6          | 34            | 33         | 2 28          | 37         | 34            | 26         | 19            | 14 37      | 67            | 59         | 54            | 24         | 36 49 |
| 8             | 7          | 30            | 51         | 2 48          | 38         | 35            | 20         | 50            | 15 8       | 68            | 60         | 16            | 23         | 37 48 |
| 9             | 8          | 27            | 10         | 3 11          | 39         | 36            | 15         | 14            | 15 43      | 69            | 61         | 18            | 58         | 38 47 |
| 10            | 9          | 23            | 28         | 3 32          | 40         | 37            | 9          | 31            | 16 11      | 70            | 62         | 0             | 44         | 39 46 |
| 11            | 10         | 19            | 44         | 3 53          | 41         | 38            | 3          | 38            | 16 43      | 71            | 62         | 41            | 6          | 40 45 |
| 12            | 11         | 15            | 38         | 4 16          | 42         | 38            | 27         | 35            | 17 16      | 72            | 63         | 20            | 31         | 41 44 |
| 13            | 12         | 12            | 13         | 4 37          | 43         | 39            | 21         | 24            | 17 50      | 73            | 63         | 58            | 43         | 42 43 |
| 14            | 13         | 8             | 24         | 4 59          | 44         | 40            | 15         | 2             | 18 24      | 74            | 64         | 35            | 31         | 43 42 |
| 15            | 14         | 4             | 34         | 5 21          | 45         | 41            | 10         | 28            | 19 0       | 75            | 65         | 11            | 9          | 44 41 |
| 16            | 15         | 0             | 42         | 5 43          | 46         | 42            | 3          | 43            | 19 36      | 76            | 65         | 43            | 9          | 45 40 |
| 17            | 15         | 56            | 47         | 6 6           | 47         | 43            | 24         | 46            | 20 13      | 77            | 66         | 17            | 31         | 46 39 |
| 18            | 16         | 52            | 51         | 6 28          | 48         | 44            | 17         | 35            | 20 51      | 78            | 66         | 48            | 12         | 47 38 |
| 19            | 17         | 48            | 51         | 6 51          | 49         | 45            | 10         | 10            | 21 31      | 79            | 67         | 17            | 1          | 48 37 |
| 20            | 18         | 44            | 49         | 7 15          | 50         | 46            | 2          | 31            | 22 10      | 80            | 67         | 43            | 52         | 49 36 |
| 21            | 19         | 40            | 46         | 7 38          | 51         | 46            | 54         | 35            | 22 52      | 81            | 68         | 8             | 38         | 50 35 |
| 22            | 20         | 36            | 38         | 8 2           | 52         | 47            | 46         | 22            | 23 35      | 82            | 68         | 31            | 13         | 51 34 |
| 23            | 21         | 32            | 28         | 8 25          | 53         | 48            | 37         | 53            | 24 18      | 83            | 68         | 51            | 27         | 52 33 |
| 24            | 22         | 28            | 14         | 8 49          | 54         | 49            | 29         | 1             | 25 4       | 84            | 69         | 9             | 17         | 53 32 |
| 25            | 23         | 23            | 56         | 9 14          | 55         | 50            | 19         | 54            | 25 50      | 85            | 69         | 24            | 14         | 54 31 |
| 26            | 24         | 19            | 34         | 9 40          | 56         | 51            | 10         | 23            | 26 37      | 86            | 69         | 37            | 12         | 55 30 |
| 27            | 25         | 15            | 10         | 10 4          | 57         | 52            | 0          | 27            | 27 26      | 87            | 69         | 47            | 7          | 56 29 |
| 28            | 26         | 10            | 40         | 10 29         | 58         | 52            | 50         | 8             | 28 16      | 88            | 69         | 54            | 16         | 57 28 |
| 29            | 27         | 6             | 6          | 10 55         | 59         | 53            | 39         | 22            | 29 8       | 89            | 69         | 58            | 34         | 58 27 |
| 30            | 28         | 1             | 27         | 11 21         | 60         | 54            | 28         | 7             | 30 2       | 90            | 70         | 0             | 0          | 59 26 |

| TRINOS     |         |            |         |            | TRINOS     |            |         |            |         | TRINOS     |         |            |         |            |
|------------|---------|------------|---------|------------|------------|------------|---------|------------|---------|------------|---------|------------|---------|------------|
| Defectives |         |            |         |            | Defectives |            |         |            |         | Defectives |         |            |         |            |
| Defectives | Arcales | Defectives | Arcales | Defectives | Arcales    | Defectives | Arcales | Defectives | Arcales | Defectives | Arcales | Defectives | Arcales | Defectives |
| 1          | 2       | 3          | 4       | 5          | 6          | 7          | 8       | 9          | 10      | 11         | 12      | 13         | 14      | 15         |
| 1          | 0       | 56         | 44      | 0 20       | 11         | 29         | 31      | 11 15      | 61      | 55         | 47      | 39         | 39      | 49         |
| 2          | 18      | 51         | 28      | 0 39       | 12         | 20         | 10      | 17 40      | 62      | 56         | 35      | 58         | 10 45   |            |
| 3          | 2       | 56         | 41      | 1 0        | 13         | 30         | 39      | 12 6       | 63      | 57         | 24      | 4          |         |            |
| 4          | 3       | 46         | 54      | 2 20       | 14         | 31         | 35      | 12 11      | 64      | 58         | 11      | 34         |         |            |
| 5          | 4       | 41         | 37      | 1 40       | 15         | 32         | 30      | 11 1       | 65      | 58         | 58      | 26         |         |            |
| 6          | 5       | 40         | 19      | 2 0        | 16         | 33         | 45      | 11 28      | 66      | 59         | 44      | 19         |         |            |
| 7          | 6       | 37         | 1       | 2 20       | 17         | 34         | 40      | 11 58      | 67      | 60         | 30      | 0          |         |            |
| 8          | 7       | 31         | 41      | 2 41       | 18         | 35         | 35      | 14 27      | 68      | 61         | 14      | 34         |         |            |
| 9          | 8       | 30         | 21      | 1 1        | 19         | 36         | 30      | 14 54      | 69      | 61         | 58      | 19         |         |            |
| 10         | 9       | 27         | 0       | 1 21       | 20         | 37         | 25      | 15 24      | 70      | 62         | 41      | 6          |         |            |
| 11         | 10      | 23         | 17      | 1 42       | 21         | 38         | 20      | 15 57      | 71      | 63         | 22      | 52         |         |            |
| 12         | 11      | 20         | 14      | 4 1        | 22         | 39         | 14      | 16 30      | 72      | 64         | 3       | 30         |         |            |
| 13         | 12      | 16         | 50      | 4 21       | 23         | 40         | 9       | 17 1       | 73      | 64         | 42      | 58         |         |            |
| 14         | 13      | 11         | 23      | 4 44       | 24         | 41         | 1       | 17 35      | 74      | 65         | 21      | 9          |         |            |
| 15         | 14      | 9          | 55      | 5 5        | 25         | 41         | 57      | 18 8       | 75      | 65         | 57      | 55         |         |            |
| 16         | 15      | 6          | 25      | 5 26       | 26         | 42         | 51      | 18 44      | 76      | 66         | 11      | 12         |         |            |
| 17         | 16      | 2          | 51      | 5 47       | 27         | 43         | 44      | 19 19      | 77      | 67         | 6       | 34         |         |            |
| 18         | 16      | 59         | 19      | 6 9        | 28         | 44         | 38      | 19 56      | 78      | 67         | 18      | 49         |         |            |
| 19         | 17      | 55         | 42      | 6 31       | 29         | 45         | 31      | 20 34      | 79      | 68         | 8       | 51         |         |            |
| 20         | 18      | 52         | 4       | 6 52       | 30         | 46         | 24      | 21 13      | 80      | 68         | 16      | 54         |         |            |
| 21         | 19      | 48         | 14      | 7 15       | 31         | 47         | 17      | 21 51      | 81      | 69         | 2       | 51         |         |            |
| 22         | 20      | 44         | 40      | 7 37       | 32         | 48         | 9       | 22 35      | 82      | 69         | 26      | 32         |         |            |
| 23         | 21      | 40         | 51      | 8 0        | 33         | 49         | 2       | 23 16      | 83      | 69         | 47      | 47         |         |            |
| 24         | 22      | 37         | 1       | 8 21       | 34         | 49         | 54      | 24 0       | 84      | 70         | 6       | 41         |         |            |
| 25         | 23      | 31         | 10      | 8 46       | 35         | 50         | 45      | 24 45      | 85      | 70         | 22      | 35         |         |            |
| 26         | 24      | 29         | 14      | 9 10       | 36         | 51         | 37      | 25 11      | 86      | 70         | 35      | 35         |         |            |
| 27         | 25      | 25         | 14      | 9 34       | 37         | 52         | 27      | 26 20      | 87      | 70         | 46      | 23         |         |            |
| 28         | 26      | 21         | 9       | 9 59       | 38         | 53         | 18      | 27 10      | 88      | 70         | 51      | 56         |         |            |
| 29         | 27      | 17         | 1       | 10 24      | 39         | 54         | 8       | 28 1       | 89      | 70         | 58      | 27         |         |            |
| 30         | 28      | 11         | 48      | 10 49      | 40         | 54         | 58      | 28 54      | 90      | 71         | 0       | 0          |         |            |

| ARCOUS        |    |     |     |                             | ARCOUS        |     |     |    |                             | ARCOUS        |    |    |    |                             |
|---------------|----|-----|-----|-----------------------------|---------------|-----|-----|----|-----------------------------|---------------|----|----|----|-----------------------------|
| Arcales       |    |     |     | Dif. fer. tis. Rate. ralis. | Arcales       |     |     |    | Dif. fer. tis. Rate. ralis. | Arcales       |    |    |    | Dif. fer. tis. Rate. ralis. |
| Def. de. tis. | g  | m   | Pa  | m. Pa                       | Def. de. tis. | g   | m   | Pa | m. Pa                       | Def. de. tis. | g  | m  | Pa | m. Pa                       |
| 1             | 00 | 32  | 4   |                             | 11            | 29  | 19  | 47 | 10 39                       | 61            | 56 | 17 | 48 | 28 36                       |
| 2             | 01 | 34  | 7   | 0.19                        | 12            | 30  | 25  | 50 | 11 5                        | 62            | 57 | 49 | 41 | 29 33                       |
| 3             | 02 | 37  | 8   | 0.38                        | 13            | 32  | 31  | 52 | 11 30                       | 63            | 57 | 55 | 47 | 30 30                       |
| 4             | 03 | 37  | 2   | 0.57                        | 14            | 33  | 37  | 43 | 11 56                       | 64            | 58 | 44 | 37 | 31 29                       |
| 5             | 04 | 38  | 14  | 1.16                        | 15            | 34  | 43  | 33 | 12 22                       | 65            | 59 | 32 | 30 | 32 30                       |
| 6             | 05 | 37  | 2   | 1.35                        | 16            | 35  | 43  | 13 | 12 49                       | 66            | 60 | 19 | 25 | 33 31                       |
| 7             | 06 | 36  | 19  | 1.54                        | 17            | 36  | 38  | 24 | 13 15                       | 67            | 61 | 5  | 55 | 34 30                       |
| 8             | 07 | 39  | 21  | 2.13                        | 18            | 37  | 35  | 31 | 13 41                       | 68            | 61 | 51 | 40 | 35 29                       |
| 9             | 08 | 36  | 22  | 2.32                        | 19            | 38  | 35  | 26 | 14 11                       | 69            | 62 | 36 | 34 | 36 29                       |
| 10            | 09 | 37  | 8   | 2.51                        | 20            | 39  | 35  | 17 | 14 41                       | 70            | 63 | 20 | 31 | 37 28                       |
| 11            | 10 | 36  | 20  | 3.10                        | 21            | 40  | 36  | 18 | 15 10                       | 71            | 64 | 4  | 30 | 38 28                       |
| 12            | 11 | 37  | 32  | 3.29                        | 22            | 41  | 37  | 3  | 15 41                       | 72            | 64 | 40 | 27 | 39 28                       |
| 13            | 12 | 38  | 16  | 3.48                        | 23            | 42  | 38  | 15 | 16 12                       | 73            | 65 | 26 | 24 | 40 27                       |
| 14            | 13 | 36  | 54  | 4.07                        | 24            | 43  | 39  | 4  | 16 43                       | 74            | 66 | 5  | 19 | 41 26                       |
| 15            | 14 | 37  | 51  | 4.26                        | 25            | 44  | 40  | 35 | 17 13                       | 75            | 66 | 43 | 44 | 42 25                       |
| 16            | 15 | 36  | 51  | 4.45                        | 26            | 45  | 41  | 27 | 17 44                       | 76            | 67 | 29 | 34 | 43 24                       |
| 17            | 16 | 37  | 49  | 4.64                        | 27            | 46  | 42  | 15 | 18 15                       | 77            | 67 | 55 | 31 | 44 23                       |
| 18            | 17 | 38  | 40  | 4.83                        | 28            | 47  | 43  | 4  | 18 46                       | 78            | 68 | 28 | 28 | 45 22                       |
| 19            | 18 | 39  | 28  | 5.02                        | 29            | 48  | 44  | 51 | 19 1                        | 79            | 69 | 0  | 1  | 46 21                       |
| 20            | 19 | 36  | 45  | 5.21                        | 30            | 49  | 45  | 39 | 19 32                       | 80            | 69 | 29 | 22 | 47 20                       |
| 21            | 20 | 37  | 41  | 5.40                        | 31            | 50  | 46  | 26 | 20 3                        | 81            | 69 | 56 | 12 | 48 19                       |
| 22            | 21 | 38  | 38  | 5.59                        | 32            | 51  | 47  | 12 | 20 34                       | 82            | 70 | 21 | 23 | 49 18                       |
| 23            | 22 | 39  | 17  | 5.78                        | 33            | 52  | 48  | 55 | 21 35                       | 83            | 70 | 43 | 45 | 50 17                       |
| 24            | 23 | 40  | 33  | 5.97                        | 34            | 53  | 49  | 40 | 22 14                       | 84            | 71 | 1  | 29 | 51 16                       |
| 25            | 24 | 41  | 16  | 6.16                        | 35            | 54  | 50  | 7  | 22 45                       | 85            | 71 | 20 | 27 | 52 15                       |
| 26            | 25 | 42  | 30  | 6.35                        | 36            | 55  | 51  | 23 | 23 16                       | 86            | 71 | 34 | 32 | 53 14                       |
| 27            | 26 | 43  | 14  | 6.54                        | 37            | 56  | 52  | 12 | 23 47                       | 87            | 72 | 0  | 0  | 54 13                       |
| 28            | 27 | 44  | 8   | 6.73                        | 38            | 57  | 53  | 1  | 24 18                       | 88            | 72 | 53 | 36 | 55 12                       |
| 29            | 28 | 45  | 20  | 6.92                        | 39            | 58  | 54  | 52 | 24 49                       | 89            | 73 | 0  | 0  | 56 11                       |
| 30            | 29 | 46  | 32  | 7.11                        | 40            | 59  | 55  | 41 | 25 20                       | 90            | 73 | 0  | 0  | 57 10                       |
| 31            | 30 | 47  | 15  | 7.30                        | 41            | 60  | 56  | 30 | 25 51                       |               |    |    |    |                             |
| 32            | 31 | 48  | 29  | 7.49                        | 42            | 61  | 57  | 19 | 26 2                        |               |    |    |    |                             |
| 33            | 32 | 49  | 11  | 7.68                        | 43            | 62  | 58  | 8  | 26 33                       |               |    |    |    |                             |
| 34            | 33 | 50  | 25  | 7.87                        | 44            | 63  | 59  | 57 | 26 44                       |               |    |    |    |                             |
| 35            | 34 | 51  | 39  | 8.06                        | 45            | 64  | 60  | 46 | 27 15                       |               |    |    |    |                             |
| 36            | 35 | 52  | 53  | 8.25                        | 46            | 65  | 61  | 35 | 27 46                       |               |    |    |    |                             |
| 37            | 36 | 53  | 67  | 8.44                        | 47            | 66  | 62  | 24 | 28 17                       |               |    |    |    |                             |
| 38            | 37 | 54  | 81  | 8.63                        | 48            | 67  | 63  | 13 | 28 48                       |               |    |    |    |                             |
| 39            | 38 | 55  | 95  | 8.82                        | 49            | 68  | 64  | 2  | 29 19                       |               |    |    |    |                             |
| 40            | 39 | 56  | 109 | 9.01                        | 50            | 69  | 65  | 51 | 29 50                       |               |    |    |    |                             |
| 41            | 40 | 57  | 123 | 9.20                        | 51            | 70  | 66  | 40 | 30 21                       |               |    |    |    |                             |
| 42            | 41 | 58  | 137 | 9.39                        | 52            | 71  | 67  | 29 | 30 52                       |               |    |    |    |                             |
| 43            | 42 | 59  | 151 | 9.58                        | 53            | 72  | 68  | 18 | 31 23                       |               |    |    |    |                             |
| 44            | 43 | 60  | 165 | 9.77                        | 54            | 73  | 69  | 7  | 31 54                       |               |    |    |    |                             |
| 45            | 44 | 61  | 179 | 9.96                        | 55            | 74  | 70  | 56 | 32 25                       |               |    |    |    |                             |
| 46            | 45 | 62  | 193 | 10.15                       | 56            | 75  | 71  | 45 | 32 56                       |               |    |    |    |                             |
| 47            | 46 | 63  | 207 | 10.34                       | 57            | 76  | 72  | 34 | 33 27                       |               |    |    |    |                             |
| 48            | 47 | 64  | 221 | 10.53                       | 58            | 77  | 73  | 23 | 33 58                       |               |    |    |    |                             |
| 49            | 48 | 65  | 235 | 10.72                       | 59            | 78  | 74  | 12 | 34 29                       |               |    |    |    |                             |
| 50            | 49 | 66  | 249 | 10.91                       | 60            | 79  | 75  | 1  | 35 0                        |               |    |    |    |                             |
| 51            | 50 | 67  | 263 | 11.10                       | 61            | 80  | 76  | 50 | 35 31                       |               |    |    |    |                             |
| 52            | 51 | 68  | 277 | 11.29                       | 62            | 81  | 77  | 39 | 36 2                        |               |    |    |    |                             |
| 53            | 52 | 69  | 291 | 11.48                       | 63            | 82  | 78  | 28 | 36 33                       |               |    |    |    |                             |
| 54            | 53 | 70  | 305 | 11.67                       | 64            | 83  | 79  | 17 | 37 4                        |               |    |    |    |                             |
| 55            | 54 | 71  | 319 | 11.86                       | 65            | 84  | 80  | 6  | 37 35                       |               |    |    |    |                             |
| 56            | 55 | 72  | 333 | 12.05                       | 66            | 85  | 81  | 55 | 38 6                        |               |    |    |    |                             |
| 57            | 56 | 73  | 347 | 12.24                       | 67            | 86  | 82  | 44 | 38 37                       |               |    |    |    |                             |
| 58            | 57 | 74  | 361 | 12.43                       | 68            | 87  | 83  | 33 | 39 8                        |               |    |    |    |                             |
| 59            | 58 | 75  | 375 | 12.62                       | 69            | 88  | 84  | 22 | 39 39                       |               |    |    |    |                             |
| 60            | 59 | 76  | 389 | 12.81                       | 70            | 89  | 85  | 11 | 40 10                       |               |    |    |    |                             |
| 61            | 60 | 77  | 403 | 13.00                       | 71            | 90  | 86  | 0  | 40 41                       |               |    |    |    |                             |
| 62            | 61 | 78  | 417 | 13.19                       | 72            | 91  | 87  | 59 | 41 12                       |               |    |    |    |                             |
| 63            | 62 | 79  | 431 | 13.38                       | 73            | 92  | 88  | 48 | 41 43                       |               |    |    |    |                             |
| 64            | 63 | 80  | 445 | 13.57                       | 74            | 93  | 89  | 37 | 42 14                       |               |    |    |    |                             |
| 65            | 64 | 81  | 459 | 13.76                       | 75            | 94  | 90  | 26 | 42 45                       |               |    |    |    |                             |
| 66            | 65 | 82  | 473 | 13.95                       | 76            | 95  | 91  | 15 | 43 16                       |               |    |    |    |                             |
| 67            | 66 | 83  | 487 | 14.14                       | 77            | 96  | 92  | 4  | 43 47                       |               |    |    |    |                             |
| 68            | 67 | 84  | 501 | 14.33                       | 78            | 97  | 93  | 53 | 44 18                       |               |    |    |    |                             |
| 69            | 68 | 85  | 515 | 14.52                       | 79            | 98  | 94  | 42 | 44 49                       |               |    |    |    |                             |
| 70            | 69 | 86  | 529 | 14.71                       | 80            | 99  | 95  | 31 | 45 20                       |               |    |    |    |                             |
| 71            | 70 | 87  | 543 | 14.90                       | 81            | 100 | 96  | 20 | 45 51                       |               |    |    |    |                             |
| 72            | 71 | 88  | 557 | 15.09                       | 82            | 101 | 97  | 9  | 46 22                       |               |    |    |    |                             |
| 73            | 72 | 89  | 571 | 15.28                       | 83            | 102 | 98  | 58 | 46 53                       |               |    |    |    |                             |
| 74            | 73 | 90  | 585 | 15.47                       | 84            | 103 | 99  | 47 | 47 24                       |               |    |    |    |                             |
| 75            | 74 | 91  | 599 | 15.66                       | 85            | 104 | 100 | 36 | 47 55                       |               |    |    |    |                             |
| 76            | 75 | 92  | 613 | 15.85                       | 86            | 105 | 101 | 25 | 48 26                       |               |    |    |    |                             |
| 77            | 76 | 93  | 627 | 16.04                       | 87            | 106 | 102 | 14 | 48 57                       |               |    |    |    |                             |
| 78            | 77 | 94  | 641 | 16.23                       | 88            | 107 | 103 | 3  | 49 28                       |               |    |    |    |                             |
| 79            | 78 | 95  | 655 | 16.42                       | 89            | 108 | 104 | 52 | 49 59                       |               |    |    |    |                             |
| 80            | 79 | 96  | 669 | 16.61                       | 90            | 109 | 105 | 41 | 50 30                       |               |    |    |    |                             |
| 81            | 80 | 97  | 683 | 16.80                       | 91            | 110 | 106 | 30 | 51 1                        |               |    |    |    |                             |
| 82            | 81 | 98  | 697 | 16.99                       | 92            | 111 | 107 | 19 | 51 32                       |               |    |    |    |                             |
| 83            | 82 | 99  | 711 | 17.18                       | 93            | 112 | 108 | 8  | 52 3                        |               |    |    |    |                             |
| 84            | 83 | 100 | 725 | 17.37                       | 94            | 113 | 109 | 57 | 52 34                       |               |    |    |    |                             |
| 85            | 84 | 101 | 739 | 17.56                       | 95            | 114 | 110 | 46 | 53 5                        |               |    |    |    |                             |
| 86            | 85 | 102 | 753 | 17.75                       | 96            | 115 | 111 | 35 | 53 36                       |               |    |    |    |                             |
| 87            | 86 | 103 | 767 | 17.94                       | 97            | 116 | 112 | 24 | 54 37                       |               |    |    |    |                             |
| 88            | 87 | 104 | 781 | 18.13                       | 98            | 117 | 113 | 13 | 54 38                       |               |    |    |    |                             |
| 89            | 88 | 105 | 795 | 18.32                       | 99            | 118 | 114 | 2  | 55 39                       |               |    |    |    |                             |
| 90            | 89 | 106 | 809 | 18.51                       | 100           | 119 | 115 | 51 | 55 40                       |               |    |    |    |                             |

| ARCUS    |    |    |    |                                   | ARCUS    |    |    |    |                                   | ARCUS    |    |    |    |                                   |
|----------|----|----|----|-----------------------------------|----------|----|----|----|-----------------------------------|----------|----|----|----|-----------------------------------|
| Defectio |    |    |    | Differe-<br>tia<br>Late-<br>ratio | Defectio |    |    |    | Differe-<br>tia<br>Late-<br>ratio | Defectio |    |    |    | Differe-<br>tia<br>Late-<br>ratio |
| g        | m  | fa | m  | fa                                | g        | m  | fa | m  | fa                                | g        | m  | fa | m  | fa                                |
| 1        | 0  | 57 | 21 |                                   | 31       | 29 | 30 | 26 |                                   | 61       | 56 | 45 | 44 |                                   |
|          |    | 57 | 22 | 0 18                              |          |    | 30 | 29 | 10 6                              |          |    | 56 | 40 | 27 21                             |
| 2        | 1  | 54 | 45 |                                   | 32       | 30 | 26 | 35 |                                   | 62       | 57 | 46 | 45 |                                   |
|          |    | 57 | 23 | 0 36                              |          |    | 56 | 24 | 10 29                             |          |    | 50 | 2  | 28 17                             |
| 3        | 2  | 52 | 3  |                                   | 33       | 31 | 23 | 19 |                                   | 63       | 58 | 47 | 46 |                                   |
|          |    | 57 | 24 | 0 54                              |          |    | 56 | 20 | 10 53                             |          |    | 49 | 29 | 29 12                             |
| 4        | 3  | 49 | 30 |                                   | 34       | 32 | 19 | 39 |                                   | 64       | 59 | 48 | 47 |                                   |
|          |    | 57 | 25 | 1 11                              |          |    | 56 | 16 | 11 17                             |          |    | 48 | 54 | 30 10                             |
| 5        | 4  | 46 | 52 |                                   | 35       | 33 | 15 | 55 |                                   | 65       | 60 | 4  | 40 |                                   |
|          |    | 57 | 26 | 1 29                              |          |    | 56 | 10 | 11 42                             |          |    | 48 | 18 | 31 13                             |
| 6        | 5  | 44 | 13 |                                   | 36       | 34 | 12 | 5  |                                   | 66       | 60 | 52 | 50 |                                   |
|          |    | 57 | 27 | 1 47                              |          |    | 56 | 4  | 12 7                              |          |    | 47 | 37 | 32 17                             |
| 7        | 6  | 41 | 34 |                                   | 37       | 35 | 8  | 9  |                                   | 67       | 61 | 40 | 35 |                                   |
|          |    | 57 | 28 | 2 5                               |          |    | 55 | 59 | 12 33                             |          |    | 46 | 54 | 33 22                             |
| 8        | 7  | 38 | 54 |                                   | 38       | 36 | 4  | 8  |                                   | 68       | 62 | 27 | 29 |                                   |
|          |    | 57 | 29 | 2 23                              |          |    | 55 | 54 | 13 1                              |          |    | 46 | 4  | 34 30                             |
| 9        | 8  | 36 | 13 |                                   | 39       | 37 | 0  | 2  |                                   | 69       | 63 | 13 | 33 |                                   |
|          |    | 57 | 30 | 2 42                              |          |    | 55 | 47 | 13 27                             |          |    | 45 | 10 | 35 40                             |
| 10       | 9  | 33 | 32 |                                   | 40       | 37 | 55 | 49 |                                   | 70       | 63 | 58 | 43 |                                   |
|          |    | 57 | 31 | 3 0                               |          |    | 55 | 39 | 13 54                             |          |    | 44 | 15 | 36 55                             |
| 11       | 10 | 30 | 49 |                                   | 41       | 38 | 51 | 28 |                                   | 71       | 64 | 42 | 50 |                                   |
|          |    | 57 | 32 | 3 19                              |          |    | 55 | 34 | 14 23                             |          |    | 43 | 13 | 38 11                             |
| 12       | 11 | 28 | 6  |                                   | 42       | 39 | 47 | 2  |                                   | 72       | 65 | 26 | 11 |                                   |
|          |    | 57 | 33 | 3 36                              |          |    | 55 | 25 | 14 52                             |          |    | 42 | 4  | 39 28                             |
| 13       | 12 | 25 | 22 |                                   | 43       | 40 | 42 | 27 |                                   | 73       | 66 | 8  | 15 |                                   |
|          |    | 57 | 34 | 3 55                              |          |    | 55 | 17 | 15 22                             |          |    | 40 | 50 | 40 50                             |
| 14       | 13 | 22 | 35 |                                   | 44       | 41 | 37 | 44 |                                   | 74       | 66 | 49 | 5  |                                   |
|          |    | 57 | 35 | 4 14                              |          |    | 55 | 10 | 15 52                             |          |    | 39 | 29 | 42 13                             |
| 15       | 14 | 19 | 47 |                                   | 45       | 42 | 32 | 54 |                                   | 75       | 67 | 28 | 34 |                                   |
|          |    | 57 | 36 | 4 33                              |          |    | 54 | 59 | 16 23                             |          |    | 38 | 0  | 43 18                             |
| 16       | 15 | 17 | 0  |                                   | 46       | 43 | 27 | 51 |                                   | 76       | 68 | 6  | 34 |                                   |
|          |    | 57 | 37 | 4 51                              |          |    | 54 | 50 | 16 56                             |          |    | 36 | 23 | 45 6                              |
| 17       | 16 | 14 | 10 |                                   | 47       | 44 | 22 | 43 |                                   | 77       | 68 | 42 | 50 |                                   |
|          |    | 57 | 38 | 5 11                              |          |    | 54 | 40 | 17 29                             |          |    | 34 | 43 | 46 16                             |
| 18       | 17 | 11 | 18 |                                   | 48       | 45 | 17 | 23 |                                   | 78       | 69 | 17 | 40 |                                   |
|          |    | 57 | 39 | 5 31                              |          |    | 54 | 29 | 18 3                              |          |    | 32 | 45 | 48 0                              |
| 19       | 18 | 8  | 24 |                                   | 49       | 46 | 11 | 52 |                                   | 79       | 69 | 50 | 35 |                                   |
|          |    | 57 | 40 | 5 51                              |          |    | 54 | 17 | 18 18                             |          |    | 30 | 42 | 49 31                             |
| 20       | 19 | 5  | 29 |                                   | 50       | 47 | 6  | 9  |                                   | 80       | 70 | 21 | 7  |                                   |
|          |    | 57 | 41 | 6 11                              |          |    | 54 | 5  | 19 14                             |          |    | 28 | 28 | 50 59                             |
| 21       | 20 | 2  | 42 |                                   | 51       | 48 | 0  | 14 |                                   | 81       | 70 | 49 | 35 |                                   |
|          |    | 56 | 59 | 6 29                              |          |    | 54 | 51 | 19 51                             |          |    | 26 | 10 | 52 26                             |
| 22       | 20 | 59 | 31 |                                   | 52       | 48 | 54 | 5  |                                   | 82       | 71 | 15 | 45 |                                   |
|          |    | 56 | 57 | 6 51                              |          |    | 54 | 36 | 20 30                             |          |    | 23 | 34 | 53 45                             |
| 23       | 21 | 56 | 28 |                                   | 53       | 49 | 47 | 41 |                                   | 83       | 71 | 19 | 18 |                                   |
|          |    | 56 | 55 | 7 12                              |          |    | 53 | 22 | 21 9                              |          |    | 20 | 48 | 55 1                              |
| 24       | 22 | 54 | 23 |                                   | 54       | 50 | 41 | 3  |                                   | 84       | 72 | 0  | 6  |                                   |
|          |    | 56 | 54 | 7 12                              |          |    | 53 | 6  | 21 52                             |          |    | 17 | 57 | 56 15                             |
| 25       | 23 | 50 | 17 |                                   | 55       | 51 | 34 | 9  |                                   | 85       | 72 | 18 | 3  |                                   |
|          |    | 56 | 50 | 7 52                              |          |    | 52 | 47 | 22 33                             |          |    | 14 | 54 | 57 21                             |
| 26       | 24 | 47 | 7  |                                   | 56       | 52 | 26 | 36 |                                   | 86       | 72 | 42 | 30 |                                   |
|          |    | 56 | 47 | 8 14                              |          |    | 52 | 29 | 23 18                             |          |    | 11 | 44 | 58 15                             |
| 27       | 25 | 43 | 54 |                                   | 57       | 53 | 19 | 25 |                                   | 87       | 72 | 44 | 42 |                                   |
|          |    | 56 | 43 | 8 35                              |          |    | 52 | 9  | 24 4                              |          |    | 8  | 28 | 59 1                              |
| 28       | 26 | 40 | 17 |                                   | 58       | 54 | 11 | 34 |                                   | 88       | 72 | 51 | 10 |                                   |
|          |    | 56 | 40 | 8 57                              |          |    | 51 | 48 | 24 49                             |          |    | 5  | 6  | 59 34                             |
| 29       | 27 | 37 | 17 |                                   | 59       | 55 | 3  | 22 |                                   | 89       | 72 | 58 | 16 |                                   |
|          |    | 56 | 36 | 9 19                              |          |    | 51 | 24 | 25 18                             |          |    | 1  | 44 | 59 54                             |
| 30       | 28 | 33 | 51 |                                   | 60       | 55 | 54 | 46 |                                   | 90       | 71 | 0  | 0  |                                   |
|          |    | 56 | 33 | 9 42                              |          |    | 50 | 58 | 26 27                             |          |    | 0  | 0  | 60 0                              |

| ARCUS     |    |    |    |   | Dif<br>fere<br>tia<br>Zate<br>ratio | ARCUS |    |    |    |    | Dif<br>fere<br>tia<br>Zate<br>ratio | ARCUS     |    |    |    |    | Dif<br>fere<br>tia<br>Zate<br>ratio |       |  |
|-----------|----|----|----|---|-------------------------------------|-------|----|----|----|----|-------------------------------------|-----------|----|----|----|----|-------------------------------------|-------|--|
| Defectus. |    |    |    |   |                                     | Arcus |    |    |    |    |                                     | Defectus. |    |    |    |    |                                     | Arcus |  |
| g         | g  | m  | fa | m | fa                                  | g     | g  | m  | fa | m  | fa                                  | g         | g  | m  | fa | m  | fa                                  |       |  |
| 1         | 0  | 57 | 41 | 0 | 16                                  | 31    | 29 | 40 | 32 | 9  | 30                                  | 61        | 37 | 44 | 5  | 26 | 4                                   |       |  |
| 2         | 1  | 55 | 21 | 0 | 34                                  | 32    | 30 | 37 | 24 | 9  | 51                                  | 62        | 38 | 4  | 32 | 26 | 56                                  |       |  |
| 3         | 2  | 51 | 1  | 0 | 51                                  | 33    | 31 | 34 | 12 | 10 | 15                                  | 63        | 38 | 55 | 29 | 27 | 51                                  |       |  |
| 4         | 3  | 50 | 41 | 1 | 8                                   | 34    | 32 | 30 | 44 | 10 | 39                                  | 64        | 39 | 45 | 56 | 28 | 50                                  |       |  |
| 5         | 4  | 48 | 21 | 1 | 24                                  | 35    | 33 | 27 | 37 | 11 | 2                                   | 65        | 40 | 35 | 53 | 29 | 51                                  |       |  |
| 6         | 5  | 46 | 0  | 1 | 41                                  | 36    | 34 | 24 | 12 | 11 | 26                                  | 66        | 41 | 25 | 15 | 30 | 52                                  |       |  |
| 7         | 6  | 43 | 39 | 1 | 58                                  | 37    | 35 | 20 | 42 | 11 | 51                                  | 67        | 42 | 13 | 27 | 31 | 58                                  |       |  |
| 8         | 7  | 41 | 17 | 2 | 15                                  | 38    | 36 | 17 | 9  | 12 | 16                                  | 68        | 43 | 1  | 50 | 32 | 5                                   |       |  |
| 9         | 8  | 38 | 55 | 2 | 32                                  | 39    | 37 | 13 | 29 | 12 | 41                                  | 69        | 43 | 49 | 13 | 34 | 16                                  |       |  |
| 10        | 9  | 36 | 32 | 2 | 49                                  | 40    | 38 | 9  | 41 | 13 | 7                                   | 70        | 44 | 35 | 18 | 35 | 31                                  |       |  |
| 11        | 10 | 34 | 8  | 3 | 7                                   | 41    | 39 | 5  | 51 | 13 | 35                                  | 71        | 45 | 24 | 9  | 36 | 46                                  |       |  |
| 12        | 11 | 31 | 42 | 3 | 25                                  | 42    | 40 | 1  | 54 | 14 | 2                                   | 72        | 46 | 5  | 39 | 37 | 5                                   |       |  |
| 13        | 12 | 29 | 16 | 3 | 44                                  | 43    | 40 | 37 | 49 | 14 | 30                                  | 73        | 46 | 49 | 5  | 38 | 29                                  |       |  |
| 14        | 13 | 26 | 50 | 4 | 0                                   | 44    | 41 | 33 | 36 | 15 | 0                                   | 74        | 47 | 31 | 18 | 40 | 54                                  |       |  |
| 15        | 14 | 24 | 22 | 4 | 17                                  | 45    | 42 | 40 | 17 | 15 | 30                                  | 75        | 48 | 12 | 12 | 42 | 23                                  |       |  |
| 16        | 15 | 21 | 53 | 4 | 35                                  | 46    | 43 | 44 | 49 | 16 | 0                                   | 76        | 48 | 51 | 40 | 43 | 52                                  |       |  |
| 17        | 16 | 19 | 21 | 4 | 54                                  | 47    | 44 | 40 | 12 | 16 | 31                                  | 77        | 49 | 29 | 31 | 45 | 24                                  |       |  |
| 18        | 17 | 16 | 49 | 5 | 11                                  | 48    | 45 | 35 | 16 | 17 | 4                                   | 78        | 50 | 5  | 40 | 46 | 58                                  |       |  |
| 19        | 18 | 14 | 15 | 5 | 29                                  | 49    | 46 | 30 | 30 | 17 | 37                                  | 79        | 50 | 39 | 56 | 48 | 31                                  |       |  |
| 20        | 19 | 11 | 40 | 5 | 48                                  | 50    | 47 | 25 | 23 | 18 | 12                                  | 80        | 51 | 12 | 6  | 50 | 4                                   |       |  |
| 21        | 20 | 9  | 1  | 6 | 8                                   | 51    | 48 | 10 | 5  | 18 | 49                                  | 81        | 51 | 42 | 1  | 51 | 17                                  |       |  |
| 22        | 21 | 6  | 22 | 6 | 16                                  | 52    | 49 | 14 | 35 | 19 | 24                                  | 82        | 52 | 9  | 30 | 53 | 8                                   |       |  |
| 23        | 22 | 3  | 40 | 6 | 46                                  | 53    | 50 | 8  | 50 | 20 | 3                                   | 83        | 52 | 34 | 49 | 54 | 35                                  |       |  |
| 24        | 23 | 0  | 55 | 7 | 6                                   | 54    | 51 | 2  | 55 | 20 | 42                                  | 84        | 52 | 56 | 21 | 55 | 51                                  |       |  |
| 25        | 23 | 58 | 9  | 7 | 25                                  | 55    | 51 | 56 | 42 | 21 | 23                                  | 85        | 53 | 15 | 24 | 57 | 0                                   |       |  |
| 26        | 24 | 55 | 21 | 7 | 45                                  | 56    | 52 | 50 | 14 | 22 | 6                                   | 86        | 53 | 31 | 13 | 58 | 2                                   |       |  |
| 27        | 25 | 52 | 29 | 8 | 6                                   | 57    | 53 | 43 | 29 | 22 | 49                                  | 87        | 53 | 41 | 41 | 59 | 50                                  |       |  |
| 28        | 26 | 49 | 14 | 8 | 27                                  | 58    | 54 | 34 | 24 | 23 | 36                                  | 88        | 53 | 52 | 10 | 59 | 28                                  |       |  |
| 29        | 27 | 46 | 36 | 8 | 48                                  | 59    | 55 | 29 | 0  | 24 | 24                                  | 89        | 53 | 58 | 10 | 59 | 51                                  |       |  |
| 30        | 28 | 41 | 15 | 9 | 9                                   | 60    | 56 | 21 | 13 | 25 | 13                                  | 90        | 54 | 0  | 0  | 60 | 0                                   |       |  |

| ARCUS     |      |           |      |           | ARCUS |           |      |           |      | ARCUS     |      |           |      |    |    |       |
|-----------|------|-----------|------|-----------|-------|-----------|------|-----------|------|-----------|------|-----------|------|----|----|-------|
| Defic. ta |      | Rate      |      | Rate      |       | Defic. ta |      | Rate      |      | Defic. ta |      | Rate      |      |    |    |       |
| Defic. ta | Rate | Defic. ta | Rate | Defic. ta | Rate  | Defic. ta | Rate | Defic. ta | Rate | Defic. ta | Rate | Defic. ta | Rate |    |    |       |
| 1         | 0    | 57        | 58   | 0 16      |       | 31        | 29   | 50        | 2    | 8 56      |      | 61        | 57   | 59 | 9  | 24 41 |
| 2         | 1    | 55        | 55   | 0 31      |       | 32        | 30   | 47        | 17   | 9 16      |      | 62        | 58   | 51 | 21 | 25 11 |
| 3         | 2    | 51        | 52   | 0 47      |       | 33        | 31   | 44        | 27   | 9 38      |      | 63        | 59   | 51 | 21 | 26 18 |
| 4         | 3    | 51        | 49   | 1 3       |       | 34        | 32   | 41        | 35   | 10 0      |      | 64        | 60   | 50 | 21 | 27 26 |
| 5         | 4    | 49        | 45   | 1 19      |       | 35        | 33   | 38        | 39   | 10 21     |      | 65        | 61   | 50 | 21 | 28 21 |
| 6         | 5    | 47        | 41   | 1 35      |       | 36        | 34   | 35        | 38   | 10 44     |      | 66        | 61   | 49 | 21 | 29 15 |
| 7         | 6    | 45        | 37   | 1 51      |       | 37        | 35   | 32        | 33   | 11 7      |      | 67        | 62   | 47 | 21 | 30 29 |
| 8         | 7    | 41        | 32   | 2 7       |       | 38        | 36   | 29        | 25   | 11 31     |      | 68        | 63   | 45 | 21 | 31 35 |
| 9         | 8    | 41        | 27   | 2 21      |       | 39        | 37   | 26        | 10   | 11 55     |      | 69        | 64   | 43 | 21 | 32 48 |
| 10        | 9    | 39        | 24   | 2 39      |       | 40        | 38   | 22        | 50   | 12 21     |      | 70        | 65   | 41 | 21 | 34 0  |
| 11        | 10   | 37        | 21   | 2 55      |       | 41        | 39   | 19        | 36   | 12 46     |      | 71        | 65   | 39 | 21 | 35 17 |
| 12        | 11   | 35        | 17   | 3 11      |       | 42        | 40   | 15        | 36   | 13 12     |      | 72        | 66   | 37 | 21 | 36 40 |
| 13        | 12   | 31        | 15   | 3 27      |       | 43        | 41   | 12        | 29   | 13 38     |      | 73        | 67   | 34 | 21 | 38 0  |
| 14        | 13   | 30        | 12   | 3 44      |       | 44        | 42   | 8         | 26   | 14 5      |      | 74        | 68   | 32 | 21 | 39 28 |
| 15        | 14   | 28        | 9    | 4 1       |       | 45        | 43   | 4         | 24   | 14 34     |      | 75        | 68   | 30 | 21 | 40 59 |
| 16        | 15   | 26        | 7    | 4 17      |       | 46        | 44   | 0         | 22   | 15 3      |      | 76        | 69   | 28 | 21 | 42 30 |
| 17        | 16   | 24        | 4    | 4 34      |       | 47        | 44   | 0         | 20   | 15 34     |      | 77        | 70   | 26 | 21 | 44 5  |
| 18        | 17   | 22        | 0    | 4 52      |       | 48        | 45   | 0         | 18   | 16 5      |      | 78        | 70   | 24 | 21 | 45 44 |
| 19        | 18   | 19        | 0    | 5 9       |       | 49        | 46   | 0         | 16   | 16 36     |      | 79        | 71   | 22 | 21 | 47 21 |
| 20        | 19   | 17        | 0    | 5 27      |       | 50        | 47   | 0         | 14   | 17 9      |      | 80        | 72   | 20 | 21 | 49 2  |
| 21        | 20   | 15        | 0    | 5 45      |       | 51        | 48   | 0         | 12   | 17 42     |      | 81        | 72   | 18 | 21 | 50 42 |
| 22        | 21   | 12        | 0    | 6 3       |       | 52        | 49   | 0         | 10   | 18 19     |      | 82        | 73   | 16 | 21 | 52 17 |
| 23        | 22   | 10        | 0    | 6 20      |       | 53        | 50   | 0         | 8    | 18 56     |      | 83        | 73   | 14 | 21 | 54 49 |
| 24        | 23   | 8         | 0    | 6 39      |       | 54        | 51   | 0         | 6    | 19 31     |      | 84        | 74   | 12 | 21 | 56 19 |
| 25        | 24   | 5         | 0    | 6 59      |       | 55        | 52   | 0         | 4    | 20 12     |      | 85        | 74   | 10 | 21 | 58 39 |
| 26        | 25   | 3         | 0    | 7 18      |       | 56        | 53   | 0         | 2    | 20 53     |      | 86        | 74   | 8  | 21 | 60 18 |
| 27        | 26   | 0         | 0    | 7 35      |       | 57        | 54   | 0         | 0    | 21 3      |      | 87        | 74   | 6  | 21 | 62 46 |
| 28        | 26   | 58        | 1    | 7 55      |       | 58        | 55   | 0         | 0    | 22 19     |      | 88        | 74   | 4  | 21 | 65 27 |
| 29        | 27   | 55        | 24   | 8 14      |       | 59        | 55   | 0         | 0    | 23 4      |      | 89        | 74   | 2  | 21 | 68 52 |
| 30        | 28   | 52        | 44   | 8 36      |       | 60        | 56   | 0         | 0    | 23 52     |      | 90        | 75   | 0  | 21 | 72 0  |



| ARCUS       |    |    |    |             | ARCUS       |    |    |             |       | ARCUS       |    |             |    |  |
|-------------|----|----|----|-------------|-------------|----|----|-------------|-------|-------------|----|-------------|----|--|
| Defectives. |    |    |    |             | Defectives. |    |    |             |       | Defectives. |    |             |    |  |
| Arcules     |    |    |    |             | Arcules     |    |    |             |       | Arcules     |    |             |    |  |
| Defectives. | R  | m  | fa | Lat. ratio. | R           | m  | fa | Lat. ratio. | R     | m           | fa | Lat. ratio. |    |  |
| 1           | 0  | 58 | 13 | 0 15        | 31          | 29 | 58 | 58          | 8 20  | 61          | 58 | 3           | 50 |  |
| 2           | 1  | 56 | 26 | 0 30        | 32          | 30 | 56 | 33          | 8 40  | 62          | 58 | 57          | 1  |  |
| 3           | 2  | 54 | 39 | 0 44        | 33          | 31 | 54 | 5           | 9 0   | 63          | 59 | 40          | 49 |  |
| 4           | 3  | 52 | 52 | 0 58        | 34          | 32 | 52 | 25          | 9 20  | 64          | 60 | 42          | 12 |  |
| 5           | 4  | 51 | 4  | 1 13        | 35          | 33 | 49 | 0           | 9 41  | 65          | 61 | 34          | 6  |  |
| 6           | 5  | 49 | 16 | 1 28        | 36          | 34 | 46 | 22          | 10 2  | 66          | 62 | 25          | 32 |  |
| 7           | 6  | 47 | 28 | 1 43        | 37          | 35 | 43 | 40          | 10 25 | 67          | 63 | 16          | 24 |  |
| 8           | 7  | 45 | 39 | 1 58        | 38          | 36 | 40 | 56          | 10 46 | 68          | 64 | 6           | 39 |  |
| 9           | 8  | 43 | 49 | 2 14        | 39          | 37 | 38 | 5           | 11 9  | 69          | 64 | 56          | 17 |  |
| 10          | 9  | 42 | 0  | 2 28        | 40          | 38 | 35 | 11          | 11 31 | 70          | 65 | 43          | 9  |  |
| 11          | 10 | 40 | 10 | 2 42        | 41          | 39 | 32 | 22          | 11 56 | 71          | 66 | 33          | 12 |  |
| 12          | 11 | 38 | 18 | 2 59        | 42          | 40 | 29 | 8           | 12 21 | 72          | 67 | 20          | 24 |  |
| 13          | 12 | 36 | 27 | 3 14        | 43          | 41 | 25 | 37          | 12 47 | 73          | 68 | 6           | 34 |  |
| 14          | 13 | 34 | 34 | 3 29        | 44          | 42 | 22 | 41          | 13 14 | 74          | 68 | 51          | 40 |  |
| 15          | 14 | 32 | 40 | 3 45        | 45          | 43 | 19 | 21          | 13 38 | 75          | 69 | 35          | 32 |  |
| 16          | 15 | 30 | 45 | 4 1         | 46          | 44 | 15 | 32          | 14 6  | 76          | 70 | 18          | 2  |  |
| 17          | 16 | 28 | 49 | 4 17        | 47          | 45 | 12 | 17          | 14 35 | 77          | 70 | 59          | 2  |  |
| 18          | 17 | 26 | 52 | 4 32        | 48          | 46 | 8  | 35          | 15 3  | 78          | 71 | 38          | 22 |  |
| 19          | 18 | 24 | 51 | 4 49        | 49          | 47 | 4  | 43          | 15 34 | 79          | 72 | 15          | 49 |  |
| 20          | 19 | 22 | 55 | 5 5         | 50          | 48 | 0  | 44          | 16 6  | 80          | 72 | 51          | 12 |  |
| 21          | 20 | 20 | 54 | 5 21        | 51          | 48 | 56 | 36          | 16 38 | 81          | 73 | 24          | 30 |  |
| 22          | 21 | 18 | 51 | 5 38        | 52          | 49 | 52 | 18          | 17 10 | 82          | 73 | 54          | 55 |  |
| 23          | 22 | 16 | 46 | 5 55        | 53          | 50 | 47 | 49          | 17 46 | 83          | 74 | 22          | 43 |  |
| 24          | 23 | 14 | 40 | 6 12        | 54          | 51 | 43 | 10          | 18 21 | 84          | 74 | 47          | 32 |  |
| 25          | 24 | 12 | 31 | 6 31        | 55          | 52 | 38 | 17          | 19 0  | 85          | 75 | 9           | 3  |  |
| 26          | 25 | 10 | 22 | 6 47        | 56          | 53 | 33 | 13          | 19 37 | 86          | 75 | 27          | 3  |  |
| 27          | 26 | 8  | 10 | 7 5         | 57          | 54 | 27 | 53          | 20 18 | 87          | 75 | 41          | 19 |  |
| 28          | 27 | 5  | 56 | 7 21        | 58          | 55 | 22 | 19          | 21 0  | 88          | 75 | 51          | 39 |  |
| 29          | 28 | 3  | 68 | 7 43        | 59          | 56 | 16 | 28          | 21 43 | 89          | 75 | 57          | 55 |  |
| 30          | 29 | 1  | 20 | 8 1         | 60          | 57 | 10 | 18          | 22 29 | 90          | 76 | 0           | 0  |  |

| ARCUS       |    |    |    |            | ARCUS       |    |    |    |            | ARCUS       |    |    |    |            |
|-------------|----|----|----|------------|-------------|----|----|----|------------|-------------|----|----|----|------------|
| Deficiencia |    |    |    |            | Deficiencia |    |    |    |            | Deficiencia |    |    |    |            |
| Arcuales    |    |    |    |            | Arcuales    |    |    |    |            | Arcuales    |    |    |    |            |
| Deficiencia | g  | m  | fa | Rate ratio | Deficiencia | g  | m  | fa | Rate ratio | Deficiencia | g  | m  | fa | Rate ratio |
| 1           | 0  | 58 | 28 | 0 14       | 11          | 10 | 7  | 18 | 7 49       | 61          | 58 | 27 | 7  | 21 50      |
| 2           | 1  | 56 | 56 | 0 27       | 12          | 11 | 5  | 11 | 8 1        | 62          | 59 | 21 | 18 | 22 18      |
| 3           | 2  | 55 | 23 | 0 41       | 13          | 12 | 1  | 5  | 8 21       | 63          | 60 | 14 | 48 | 23 28      |
| 4           | 3  | 51 | 50 | 0 55       | 14          | 13 | 0  | 55 | 8 40       | 64          | 61 | 8  | 6  | 24 19      |
| 5           | 4  | 52 | 47 | 1 9        | 15          | 14 | 58 | 41 | 9 0        | 65          | 62 | 0  | 57 | 25 15      |
| 6           | 5  | 50 | 44 | 1 22       | 16          | 15 | 56 | 34 | 9 19       | 66          | 62 | 51 | 24 | 26 13      |
| 7           | 6  | 49 | 41 | 1 35       | 17          | 15 | 54 | 5  | 9 38       | 67          | 63 | 45 | 18 | 27 16      |
| 8           | 7  | 47 | 37 | 1 49       | 18          | 16 | 51 | 42 | 10 0       | 68          | 64 | 36 | 40 | 28 20      |
| 9           | 8  | 46 | 3  | 2 1        | 19          | 17 | 49 | 14 | 10 21      | 69          | 65 | 27 | 27 | 29 17      |
| 10          | 9  | 44 | 28 | 2 17       | 20          | 18 | 46 | 42 | 10 44      | 70          | 66 | 17 | 31 | 30 41      |
| 11          | 10 | 42 | 52 | 2 32       | 21          | 19 | 44 | 8  | 11 6       | 71          | 67 | 6  | 24 | 31 55      |
| 12          | 11 | 41 | 47 | 2 45       | 22          | 20 | 41 | 29 | 11 28      | 72          | 67 | 55 | 23 | 33 15      |
| 13          | 12 | 39 | 41 | 3 0        | 23          | 21 | 38 | 44 | 11 51      | 73          | 68 | 42 | 57 | 34 43      |
| 14          | 13 | 38 | 3  | 3 14       | 24          | 22 | 35 | 57 | 12 16      | 74          | 69 | 29 | 33 | 36 7       |
| 15          | 14 | 36 | 25 | 3 28       | 25          | 23 | 32 | 50 | 12 42      | 75          | 70 | 14 | 57 | 37 39      |
| 16          | 15 | 34 | 46 | 3 43       | 26          | 24 | 29 | 54 | 13 7       | 76          | 70 | 50 | 2  | 39 20      |
| 17          | 16 | 33 | 6  | 3 57       | 27          | 25 | 26 | 52 | 13 34      | 77          | 71 | 41 | 42 | 41 0       |
| 18          | 17 | 31 | 34 | 4 13       | 28          | 26 | 23 | 48 | 14 1       | 78          | 72 | 32 | 42 | 42 51      |
| 19          | 18 | 29 | 42 | 4 28       | 29          | 27 | 20 | 47 | 14 30      | 79          | 73 | 1  | 56 | 44 18      |
| 20          | 19 | 28 | 0  | 4 42       | 30          | 28 | 16 | 50 | 15 9       | 80          | 74 | 39 | 5  | 46 20      |
| 21          | 20 | 26 | 15 | 4 58       | 31          | 29 | 13 | 54 | 15 29      | 81          | 74 | 13 | 58 | 48 24      |
| 22          | 21 | 24 | 29 | 5 13       | 32          | 30 | 9  | 58 | 16 1       | 82          | 76 | 46 | 18 | 50 21      |
| 23          | 22 | 22 | 41 | 5 29       | 33          | 31 | 5  | 55 | 16 34      | 83          | 75 | 15 | 51 | 52 10      |
| 24          | 23 | 20 | 52 | 5 45       | 34          | 32 | 1  | 55 | 17 7       | 84          | 75 | 42 | 14 | 53 57      |
| 25          | 24 | 19 | 2  | 6 1        | 35          | 32 | 57 | 17 | 17 43      | 85          | 76 | 5  | 14 | 55 28      |
| 26          | 25 | 17 | 9  | 6 19       | 36          | 33 | 54 | 50 | 18 20      | 86          | 76 | 24 | 31 | 57 5       |
| 27          | 26 | 15 | 15 | 6 35       | 37          | 34 | 48 | 11 | 18 58      | 87          | 76 | 39 | 51 | 58 19      |
| 28          | 27 | 13 | 19 | 6 51       | 38          | 35 | 41 | 19 | 19 39      | 88          | 76 | 50 | 50 | 59 14      |
| 29          | 28 | 11 | 21 | 7 9        | 39          | 36 | 38 | 11 | 20 20      | 89          | 76 | 57 | 44 | 60 0       |
| 30          | 29 | 9  | 31 | 7 27       | 40          | 37 | 34 | 20 | 21 4       | 90          | 77 | 0  | 0  | 60 0       |

| Defectives. | ARCUS |    |    |      | Diff<br>fer<br>tia<br>Zate-<br>ratio. | Defectives. | ARCUS |    |     |       | Diff<br>fer<br>tia<br>Zate-<br>ratio. | Defectives. | ARCUS |    |    |       | Diff<br>fer<br>tia<br>Zate-<br>ratio. |
|-------------|-------|----|----|------|---------------------------------------|-------------|-------|----|-----|-------|---------------------------------------|-------------|-------|----|----|-------|---------------------------------------|
|             | g     | m  | fa | m fa |                                       |             | g     | m  | fa  | m fa  |                                       |             | g     | m  | fa | m fa  |                                       |
| 1           | 0     | 58 | 42 | 10   |                                       | 31          | 10    | 15 | 2   | 7     |                                       | 61          | 58    | 48 | 37 | 20 18 |                                       |
| 2           | 1     | 57 | 23 | 20   |                                       | 32          | 11    | 15 | 11  | 7 25  |                                       | 62          | 59    | 41 | 46 | 2     |                                       |
| 3           | 2     | 56 | 4  | 20   |                                       | 33          | 12    | 16 | 21  | 7 42  |                                       | 63          | 60    | 38 | 16 | 21 51 |                                       |
| 4           | 3     | 54 | 47 | 20   |                                       | 34          | 13    | 17 | 30  | 8 0   |                                       | 64          | 61    | 32 | 25 | 22 42 |                                       |
| 5           | 4     | 51 | 26 | 1    |                                       | 35          | 14    | 18 | 39  | 8 17  |                                       | 65          | 62    | 26 | 12 | 23 37 |                                       |
| 6           | 5     | 52 | 6  | 1 16 |                                       | 36          | 15    | 19 | 48  | 8 32  |                                       | 66          | 63    | 19 | 37 | 24 31 |                                       |
| 7           | 6     | 50 | 46 | 1 29 |                                       | 37          | 16    | 20 | 57  | 8 56  |                                       | 67          | 64    | 12 | 44 | 25 30 |                                       |
| 8           | 7     | 49 | 26 | 1 41 |                                       | 38          | 17    | 21 | 66  | 9 14  |                                       | 68          | 65    | 5  | 0  | 26 24 |                                       |
| 9           | 8     | 48 | 6  | 1 51 |                                       | 39          | 18    | 22 | 75  | 9 34  |                                       | 69          | 66    | 56 | 54 | 27 39 |                                       |
| 10          | 9     | 46 | 45 | 2 6  |                                       | 40          | 19    | 23 | 84  | 9 54  |                                       | 70          | 67    | 48 | 12 | 28 49 |                                       |
| 11          | 10    | 45 | 24 | 2 19 |                                       | 41          | 20    | 24 | 93  | 10 14 |                                       | 71          | 67    | 38 | 49 | 30 2  |                                       |
| 12          | 11    | 44 | 2  | 2 31 |                                       | 42          | 21    | 25 | 102 | 10 36 |                                       | 72          | 68    | 28 | 38 | 31 23 |                                       |
| 13          | 12    | 42 | 41 | 2 45 |                                       | 43          | 22    | 26 | 111 | 10 58 |                                       | 73          | 69    | 17 | 40 | 32 45 |                                       |
| 14          | 13    | 41 | 37 | 2 59 |                                       | 44          | 23    | 27 | 120 | 11 20 |                                       | 74          | 70    | 5  | 40 | 34 16 |                                       |
| 15          | 14    | 39 | 53 | 3 12 |                                       | 45          | 24    | 28 | 129 | 11 41 |                                       | 75          | 70    | 32 | 38 | 35 51 |                                       |
| 16          | 15    | 38 | 29 | 3 26 |                                       | 46          | 25    | 29 | 138 | 12 0  |                                       | 76          | 71    | 38 | 22 | 37 17 |                                       |
| 17          | 16    | 37 | 13 | 3 39 |                                       | 47          | 26    | 30 | 147 | 12 21 |                                       | 77          | 72    | 21 | 42 | 39 14 |                                       |
| 18          | 17    | 35 | 37 | 3 51 |                                       | 48          | 27    | 31 | 156 | 12 42 |                                       | 78          | 73    | 5  | 41 | 41 1  |                                       |
| 19          | 18    | 34 | 10 | 4 6  |                                       | 49          | 28    | 32 | 165 | 13 03 |                                       | 79          | 74    | 46 | 34 | 42 56 |                                       |
| 20          | 19    | 32 | 42 | 4 20 |                                       | 50          | 29    | 33 | 174 | 13 24 |                                       | 80          | 74    | 25 | 35 | 44 59 |                                       |
| 21          | 20    | 31 | 11 | 4 35 |                                       | 51          | 30    | 34 | 183 | 13 45 |                                       | 81          | 75    | 2  | 22 | 47 0  |                                       |
| 22          | 21    | 29 | 42 | 4 49 |                                       | 52          | 31    | 35 | 192 | 14 06 |                                       | 82          | 75    | 36 | 39 | 48 59 |                                       |
| 23          | 22    | 28 | 10 | 5 4  |                                       | 53          | 32    | 36 | 201 | 14 27 |                                       | 83          | 76    | 8  | 1  | 50 4  |                                       |
| 24          | 23    | 26 | 37 | 5 18 |                                       | 54          | 33    | 37 | 210 | 14 48 |                                       | 84          | 76    | 46 | 11 | 51 6  |                                       |
| 25          | 24    | 25 | 15 | 5 31 |                                       | 55          | 34    | 38 | 219 | 15 09 |                                       | 85          | 77    | 0  | 52 | 54 56 |                                       |
| 26          | 25    | 23 | 38 | 5 48 |                                       | 56          | 35    | 39 | 228 | 15 30 |                                       | 86          | 77    | 21 | 16 | 56 17 |                                       |
| 27          | 26    | 21 | 50 | 6 4  |                                       | 57          | 36    | 40 | 237 | 15 51 |                                       | 87          | 77    | 38 | 10 | 58 1  |                                       |
| 28          | 27    | 20 | 11 | 6 19 |                                       | 58          | 37    | 41 | 246 | 16 12 |                                       | 88          | 77    | 50 | 11 | 59 5  |                                       |
| 29          | 28    | 18 | 30 | 6 35 |                                       | 59          | 38    | 42 | 255 | 16 33 |                                       | 89          | 77    | 57 | 11 | 59 44 |                                       |
| 30          | 29    | 16 | 48 | 6 51 |                                       | 60          | 39    | 43 | 264 | 16 54 |                                       | 90          | 78    | 0  | 0  | 60 0  |                                       |

| ARCUS    |      |    |    |      | ARCUS    |      |    |    |    | ARCUS    |      |    |     |       |
|----------|------|----|----|------|----------|------|----|----|----|----------|------|----|-----|-------|
| Arcus    |      |    |    |      | Arcus    |      |    |    |    | Arcus    |      |    |     |       |
| Defectus | Rate |    |    |      | Defectus | Rate |    |    |    | Defectus | Rate |    |     |       |
| m        | n    | fa | m  | fa   | m        | n    | fa | m  | fa | m        | n    | fa | m   | fa    |
| 1        | 0    | 58 | 54 | 0 11 | 31       | 10   | 22 | 10 | 58 | 61       | 50   | 9  | 45  | 18 41 |
| 2        | 1    | 57 | 48 | 0 23 | 32       | 11   | 20 | 40 | 58 | 62       | 60   | 4  | 48  | 19 29 |
| 3        | 2    | 56 | 39 | 0 34 | 33       | 12   | 19 | 8  | 58 | 63       | 61   | 0  | 7   | 20 12 |
| 4        | 3    | 55 | 31 | 0 46 | 34       | 13   | 17 | 15 | 58 | 64       | 61   | 55 | 2   | 21 0  |
| 5        | 4    | 54 | 23 | 0 57 | 35       | 14   | 15 | 58 | 58 | 65       | 62   | 49 | 49  | 21 50 |
| 6        | 5    | 53 | 15 | 1 9  | 36       | 15   | 14 | 20 | 58 | 66       | 63   | 44 | 8   | 22 43 |
| 7        | 6    | 52 | 7  | 1 20 | 37       | 16   | 12 | 30 | 58 | 67       | 64   | 38 | 16  | 23 41 |
| 8        | 7    | 51 | 0  | 1 32 | 38       | 17   | 10 | 56 | 58 | 68       | 65   | 31 | 24  | 24 39 |
| 9        | 8    | 50 | 50 | 1 44 | 39       | 18   | 9  | 9  | 58 | 69       | 66   | 24 | 33  | 25 45 |
| 10       | 9    | 49 | 51 | 1 56 | 40       | 19   | 7  | 20 | 58 | 70       | 67   | 17 | 42  | 26 51 |
| 11       | 10   | 48 | 43 | 2 7  | 41       | 20   | 5  | 28 | 58 | 71       | 68   | 10 | 51  | 28 3  |
| 12       | 11   | 47 | 35 | 2 20 | 42       | 21   | 4  | 33 | 58 | 72       | 69   | 0  | 60  | 29 21 |
| 13       | 12   | 46 | 26 | 2 32 | 43       | 22   | 3  | 38 | 58 | 73       | 70   | 50 | 25  | 30 42 |
| 14       | 13   | 45 | 16 | 2 43 | 44       | 23   | 2  | 43 | 58 | 74       | 71   | 40 | 34  | 32 10 |
| 15       | 14   | 44 | 7  | 2 56 | 45       | 24   | 1  | 48 | 58 | 75       | 72   | 30 | 43  | 33 43 |
| 16       | 15   | 43 | 0  | 3 7  | 46       | 25   | 0  | 53 | 58 | 76       | 73   | 20 | 52  | 35 23 |
| 17       | 16   | 42 | 50 | 3 21 | 47       | 26   | 59 | 58 | 58 | 77       | 74   | 10 | 61  | 37 9  |
| 18       | 17   | 41 | 40 | 3 33 | 48       | 27   | 58 | 53 | 58 | 78       | 75   | 0  | 70  | 39 1  |
| 19       | 18   | 40 | 30 | 3 46 | 49       | 28   | 57 | 48 | 58 | 79       | 76   | 50 | 79  | 41 4  |
| 20       | 19   | 39 | 20 | 3 59 | 50       | 29   | 56 | 43 | 58 | 80       | 77   | 40 | 88  | 43 4  |
| 21       | 20   | 38 | 10 | 4 11 | 51       | 30   | 55 | 38 | 58 | 81       | 78   | 30 | 97  | 45 14 |
| 22       | 21   | 37 | 0  | 4 25 | 52       | 31   | 54 | 33 | 58 | 82       | 79   | 20 | 106 | 47 32 |
| 23       | 22   | 36 | 50 | 4 37 | 53       | 32   | 53 | 28 | 58 | 83       | 80   | 10 | 115 | 49 47 |
| 24       | 23   | 35 | 40 | 4 51 | 54       | 33   | 52 | 23 | 58 | 84       | 81   | 0  | 124 | 51 56 |
| 25       | 24   | 34 | 30 | 5 6  | 55       | 34   | 51 | 18 | 58 | 85       | 82   | 50 | 133 | 54 5  |
| 26       | 25   | 33 | 20 | 5 19 | 56       | 35   | 50 | 13 | 58 | 86       | 83   | 40 | 142 | 56 2  |
| 27       | 26   | 32 | 10 | 5 32 | 57       | 36   | 49 | 8  | 58 | 87       | 84   | 30 | 151 | 57 40 |
| 28       | 27   | 31 | 0  | 5 47 | 58       | 37   | 48 | 3  | 58 | 88       | 85   | 20 | 160 | 58 57 |
| 29       | 28   | 30 | 50 | 6 2  | 59       | 38   | 47 | 58 | 58 | 89       | 86   | 10 | 169 | 59 45 |
| 30       | 29   | 29 | 40 | 6 17 | 60       | 39   | 46 | 53 | 58 | 90       | 87   | 0  | 178 | 60 0  |

| TABLES      |    |    |    |      | TABLES      |    |    |    |       | TABLES      |    |    |    |       |
|-------------|----|----|----|------|-------------|----|----|----|-------|-------------|----|----|----|-------|
| Defectio.   |    |    |    |      | Defectio.   |    |    |    |       | Defectio.   |    |    |    |       |
| Arcales     |    |    |    |      | Arcales     |    |    |    |       | Arcales     |    |    |    |       |
| Rate ratio. |    |    |    |      | Rate ratio. |    |    |    |       | Rate ratio. |    |    |    |       |
| m fa        |    |    |    |      | m fa        |    |    |    |       | m fa        |    |    |    |       |
| 1           | 0  | 50 | 5  | 0 11 | 31          | 30 | 28 | 42 | 5 56  | 61          | 59 | 27 | 50 | 17 8  |
| 2           | 1  | 50 | 5  | 0 20 | 32          | 31 | 27 | 42 | 6 10  | 62          | 60 | 24 | 17 | 17 46 |
| 3           | 2  | 57 | 16 | 0 31 | 33          | 32 | 26 | 41 | 6 21  | 63          | 61 | 20 | 19 | 18 29 |
| 4           | 3  | 56 | 21 | 0 41 | 34          | 33 | 24 | 34 | 6 38  | 64          | 62 | 16 | 7  | 19 15 |
| 5           | 4  | 55 | 26 | 0 52 | 35          | 34 | 23 | 34 | 6 51  | 65          | 63 | 11 | 39 | 20 1  |
| 6           | 5  | 54 | 31 | 1 2  | 36          | 35 | 22 | 32 | 7 9   | 66          | 64 | 6  | 51 | 20 50 |
| 7           | 6  | 51 | 35 | 1 13 | 37          | 36 | 20 | 30 | 7 23  | 67          | 65 | 1  | 45 | 21 44 |
| 8           | 7  | 52 | 39 | 1 24 | 38          | 37 | 19 | 21 | 7 40  | 68          | 65 | 36 | 11 | 22 42 |
| 9           | 8  | 51 | 43 | 1 35 | 39          | 38 | 17 | 24 | 7 57  | 69          | 66 | 30 | 18 | 23 42 |
| 10          | 9  | 50 | 47 | 1 45 | 40          | 39 | 16 | 24 | 8 14  | 70          | 67 | 24 | 2  | 24 46 |
| 11          | 10 | 49 | 50 | 1 56 | 41          | 40 | 14 | 22 | 8 31  | 71          | 68 | 16 | 24 | 25 57 |
| 12          | 11 | 48 | 55 | 2 5  | 42          | 41 | 13 | 15 | 8 50  | 72          | 69 | 20 | 22 | 27 10 |
| 13          | 12 | 47 | 58 | 2 16 | 43          | 42 | 11 | 16 | 9 7   | 73          | 70 | 21 | 7  | 28 18 |
| 14          | 13 | 46 | 59 | 2 28 | 44          | 43 | 9  | 15 | 9 27  | 74          | 71 | 12 | 6  | 29 55 |
| 15          | 14 | 45 | 1  | 2 39 | 45          | 44 | 8  | 10 | 9 46  | 75          | 72 | 2  | 10 | 31 28 |
| 16          | 15 | 45 | 1  | 2 50 | 46          | 45 | 6  | 20 | 10 8  | 76          | 72 | 51 | 12 | 33 8  |
| 17          | 16 | 44 | 3  | 3 1  | 47          | 46 | 4  | 29 | 10 27 | 77          | 73 | 47 | 21 | 34 51 |
| 18          | 17 | 43 | 3  | 3 12 | 48          | 47 | 2  | 31 | 10 49 | 78          | 74 | 25 | 35 | 36 47 |
| 19          | 18 | 42 | 2  | 3 24 | 49          | 48 | 0  | 31 | 11 12 | 79          | 75 | 10 | 34 | 38 48 |
| 20          | 19 | 41 | 1  | 3 36 | 50          | 49 | 58 | 20 | 11 35 | 80          | 75 | 51 | 18 | 40 58 |
| 21          | 20 | 39 | 59 | 3 47 | 51          | 49 | 56 | 14 | 11 59 | 81          | 76 | 14 | 16 | 43 21 |
| 22          | 21 | 38 | 56 | 3 59 | 52          | 50 | 51 | 29 | 12 23 | 82          | 77 | 13 | 10 | 45 40 |
| 23          | 22 | 37 | 51 | 4 12 | 53          | 51 | 51 | 45 | 12 50 | 83          | 77 | 48 | 32 | 48 3  |
| 24          | 23 | 36 | 46 | 4 25 | 54          | 52 | 49 | 7  | 13 18 | 84          | 78 | 23 | 13 | 50 37 |
| 25          | 24 | 35 | 42 | 4 36 | 55          | 53 | 46 | 12 | 13 46 | 85          | 78 | 49 | 24 | 53 1  |
| 26          | 25 | 34 | 35 | 4 48 | 56          | 54 | 41 | 48 | 14 16 | 86          | 79 | 14 | 15 | 55 13 |
| 27          | 26 | 33 | 26 | 5 2  | 57          | 55 | 40 | 58 | 14 48 | 87          | 79 | 31 | 51 | 57 10 |
| 28          | 27 | 32 | 17 | 5 15 | 58          | 56 | 37 | 59 | 15 19 | 88          | 79 | 48 | 15 | 58 41 |
| 29          | 28 | 31 | 7  | 5 27 | 59          | 57 | 34 | 48 | 15 54 | 89          | 79 | 57 | 2  | 59 40 |
| 30          | 29 | 30 | 56 | 5 41 | 60          | 58 | 31 | 30 | 16 30 | 90          | 80 | 0  | 0  | 60 0  |

| EIRCUS   |    |    |    |       | EIRCUS   |    |    |    |       | EIRCUS   |    |    |    |       |
|----------|----|----|----|-------|----------|----|----|----|-------|----------|----|----|----|-------|
| Arcules  |    |    |    |       | Arcules  |    |    |    |       | Arcules  |    |    |    |       |
| Defectus | g  | m  | fa | mi fa | Defectus | g  | m  | fa | mi fa | Defectus | g  | m  | fa | mi fa |
| 1        | 0  | 59 | 16 | 0 9   | 31       | 30 | 34 | 38 | 5 18  | 61       | 59 | 45 | 57 | 15 27 |
| 2        | 1  | 58 | 31 | 1 50  | 32       | 31 | 33 | 37 | 5 31  | 62       | 60 | 42 | 54 | 16 4  |
| 3        | 2  | 57 | 47 | 2 18  | 33       | 32 | 32 | 36 | 5 45  | 63       | 61 | 38 | 48 | 16 42 |
| 4        | 3  | 56 | 15 | 3 18  | 34       | 31 | 31 | 35 | 5 58  | 64       | 62 | 35 | 45 | 17 21 |
| 5        | 4  | 56 | 18 | 4 46  | 35       | 34 | 30 | 34 | 6 11  | 65       | 64 | 31 | 40 | 18 7  |
| 6        | 5  | 55 | 11 | 5 56  | 36       | 35 | 29 | 33 | 6 24  | 66       | 64 | 27 | 41 | 18 57 |
| 7        | 6  | 54 | 48 | 1 5   | 37       | 36 | 28 | 32 | 6 39  | 67       | 65 | 23 | 39 | 19 43 |
| 8        | 7  | 54 | 3  | 1 15  | 38       | 37 | 27 | 31 | 6 51  | 68       | 66 | 18 | 35 | 20 15 |
| 9        | 8  | 53 | 18 | 1 24  | 39       | 38 | 25 | 30 | 7 8   | 69       | 67 | 14 | 30 | 21 12 |
| 10       | 9  | 52 | 32 | 1 34  | 40       | 39 | 24 | 29 | 7 23  | 70       | 68 | 8  | 28 | 21 35 |
| 11       | 10 | 51 | 46 | 1 43  | 41       | 40 | 23 | 28 | 7 38  | 71       | 69 | 2  | 21 | 21 41 |
| 12       | 11 | 51 | 0  | 1 54  | 42       | 41 | 22 | 27 | 7 54  | 72       | 69 | 36 | 32 | 24 50 |
| 13       | 12 | 50 | 14 | 2 1   | 43       | 42 | 20 | 26 | 8 12  | 73       | 70 | 49 | 35 | 26 10 |
| 14       | 13 | 49 | 27 | 2 13  | 44       | 43 | 19 | 25 | 8 28  | 74       | 71 | 42 | 31 | 27 29 |
| 15       | 14 | 48 | 40 | 2 22  | 45       | 44 | 17 | 24 | 8 46  | 75       | 72 | 33 | 28 | 29 0  |
| 16       | 15 | 47 | 52 | 2 33  | 46       | 45 | 16 | 23 | 9 5   | 76       | 73 | 24 | 20 | 30 35 |
| 17       | 16 | 47 | 4  | 2 42  | 47       | 46 | 14 | 22 | 9 21  | 77       | 74 | 14 | 18 | 31 20 |
| 18       | 17 | 46 | 15 | 2 51  | 48       | 47 | 13 | 20 | 9 44  | 78       | 75 | 2  | 12 | 34 17 |
| 19       | 18 | 45 | 26 | 3 1   | 49       | 48 | 11 | 19 | 10 3  | 79       | 75 | 49 | 22 | 16 16 |
| 20       | 19 | 44 | 37 | 3 14  | 50       | 49 | 10 | 18 | 10 24 | 80       | 76 | 34 | 15 | 18 34 |
| 21       | 20 | 43 | 48 | 3 24  | 51       | 50 | 8  | 17 | 10 45 | 81       | 77 | 37 | 37 | 40 51 |
| 22       | 21 | 42 | 59 | 3 35  | 52       | 51 | 6  | 16 | 11 9  | 82       | 77 | 58 | 50 | 41 26 |
| 23       | 22 | 42 | 1  | 3 45  | 53       | 52 | 4  | 15 | 11 33 | 83       | 78 | 36 | 35 | 45 11 |
| 24       | 23 | 41 | 11 | 3 56  | 54       | 53 | 2  | 14 | 11 58 | 84       | 79 | 11 | 30 | 48 51 |
| 25       | 24 | 40 | 18 | 4 7   | 55       | 54 | 0  | 13 | 12 23 | 85       | 79 | 42 | 34 | 51 33 |
| 26       | 25 | 39 | 23 | 4 19  | 56       | 54 | 38 | 4  | 12 50 | 86       | 80 | 9  | 28 | 54 14 |
| 27       | 26 | 38 | 28 | 4 30  | 57       | 55 | 46 | 32 | 13 18 | 87       | 80 | 31 | 1  | 56 34 |
| 28       | 27 | 37 | 32 | 4 42  | 58       | 56 | 51 | 18 | 13 49 | 88       | 80 | 46 | 56 | 58 24 |
| 29       | 28 | 36 | 34 | 4 54  | 59       | 57 | 50 | 15 | 14 21 | 89       | 80 | 56 | 42 | 59 36 |
| 30       | 29 | 35 | 37 | 5 6   | 60       | 58 | 48 | 0  | 14 52 | 90       | 81 | 0  | 0  | 60 0  |



| ARCUS     |    |    |    |      | ARCUS     |    |    |    |       | ARCUS     |    |    |    |       |
|-----------|----|----|----|------|-----------|----|----|----|-------|-----------|----|----|----|-------|
| Defectus. |    |    |    |      | Defectus. |    |    |    |       | Defectus. |    |    |    |       |
| Arcus     |    |    |    |      | Arcus     |    |    |    |       | Arcus     |    |    |    |       |
| g         | m  | fa | mi | fa   | g         | m  | fa | mi | fa    | g         | m  | fa | mi | fa    |
| 1         | 0  | 39 | 25 | 0 8  | 31        | 30 | 39 | 25 | 4 41  | 61        | 60 | 0  | 33 | 13 47 |
| 2         | 1  | 58 | 50 | 0 16 | 32        | 31 | 49 | 8  | 4 54  | 62        | 60 | 58 | 7  | 14 19 |
| 3         | 2  | 58 | 15 | 0 24 | 33        | 32 | 48 | 19 | 5 5   | 63        | 61 | 55 | 30 | 14 54 |
| 4         | 3  | 57 | 40 | 0 32 | 34        | 33 | 37 | 30 | 5 15  | 64        | 62 | 54 | 45 | 15 31 |
| 5         | 4  | 57 | 4  | 0 41 | 35        | 34 | 36 | 38 | 5 27  | 65        | 63 | 49 | 47 | 16 9  |
| 6         | 5  | 56 | 29 | 0 49 | 36        | 35 | 35 | 45 | 5 40  | 66        | 64 | 46 | 38 | 16 52 |
| 7         | 6  | 55 | 54 | 0 58 | 37        | 36 | 34 | 54 | 5 52  | 67        | 65 | 41 | 12 | 17 37 |
| 8         | 7  | 55 | 18 | 1 6  | 38        | 37 | 33 | 56 | 6 5   | 68        | 66 | 39 | 30 | 18 27 |
| 9         | 8  | 54 | 42 | 1 14 | 39        | 38 | 32 | 59 | 6 19  | 69        | 67 | 35 | 32 | 19 20 |
| 10        | 9  | 54 | 6  | 1 21 | 40        | 39 | 32 | 1  | 6 33  | 70        | 68 | 31 | 13 | 19 14 |
| 11        | 10 | 53 | 29 | 1 32 | 41        | 40 | 31 | 1  | 6 46  | 71        | 69 | 26 | 32 | 21 15 |
| 12        | 11 | 52 | 54 | 1 40 | 42        | 41 | 30 | 39 | 7 1   | 72        | 70 | 21 | 22 | 22 23 |
| 13        | 12 | 52 | 17 | 1 48 | 43        | 42 | 28 | 55 | 7 16  | 73        | 71 | 15 | 45 | 23 23 |
| 14        | 13 | 51 | 40 | 1 57 | 44        | 43 | 27 | 50 | 7 30  | 74        | 72 | 9  | 30 | 24 49 |
| 15        | 14 | 51 | 2  | 2 6  | 45        | 44 | 26 | 42 | 7 45  | 75        | 73 | 2  | 18 | 26 16 |
| 16        | 15 | 50 | 25 | 2 14 | 46        | 45 | 25 | 33 | 8 2   | 76        | 74 | 54 | 55 | 27 48 |
| 17        | 16 | 49 | 46 | 2 22 | 47        | 46 | 24 | 19 | 8 12  | 77        | 74 | 46 | 18 | 29 33 |
| 18        | 17 | 49 | 8  | 2 32 | 48        | 47 | 23 | 4  | 8 27  | 78        | 75 | 36 | 39 | 31 22 |
| 19        | 18 | 48 | 29 | 2 42 | 49        | 48 | 21 | 46 | 8 55  | 79        | 76 | 25 | 48 | 33 27 |
| 20        | 19 | 47 | 51 | 2 50 | 50        | 49 | 20 | 24 | 9 13  | 80        | 77 | 13 | 10 | 35 42 |
| 21        | 20 | 47 | 10 | 3 0  | 51        | 50 | 18 | 58 | 9 33  | 81        | 77 | 58 | 30 | 38 5  |
| 22        | 21 | 46 | 30 | 3 9  | 52        | 51 | 17 | 31 | 9 53  | 82        | 78 | 42 | 16 | 40 50 |
| 23        | 22 | 45 | 48 | 3 20 | 53        | 52 | 15 | 58 | 10 15 | 83        | 79 | 23 | 6  | 43 41 |
| 24        | 23 | 45 | 7  | 3 29 | 54        | 53 | 14 | 23 | 10 37 | 84        | 80 | 0  | 43 | 46 42 |
| 25        | 24 | 44 | 25 | 3 39 | 55        | 54 | 12 | 41 | 11 0  | 85        | 80 | 34 | 27 | 49 52 |
| 26        | 25 | 43 | 42 | 3 49 | 56        | 55 | 10 | 54 | 11 24 | 86        | 81 | 3  | 42 | 52 52 |
| 27        | 26 | 42 | 58 | 3 59 | 57        | 56 | 9  | 4  | 11 49 | 87        | 81 | 27 | 45 | 55 39 |
| 28        | 27 | 42 | 14 | 4 9  | 58        | 57 | 7  | 56 | 12 15 | 88        | 81 | 45 | 20 | 57 57 |
| 29        | 28 | 41 | 28 | 4 20 | 59        | 58 | 5  | 3  | 12 45 | 89        | 81 | 56 | 18 | 59 29 |
| 30        | 29 | 40 | 44 | 4 31 | 60        | 59 | 2  | 52 | 13 14 | 90        | 82 | 0  | 0  | 60 0  |

[illegible]

| ARCUS     |    |    |    |      | Diff<br>fere<br>tia<br>Rate<br>ratio | ARCUS |    |    |      |      | Diff<br>fere<br>tia<br>Rate<br>ratio | ARCUS     |    |      |    |       | Diff<br>fere<br>tia<br>Rate<br>ratio |       |      |
|-----------|----|----|----|------|--------------------------------------|-------|----|----|------|------|--------------------------------------|-----------|----|------|----|-------|--------------------------------------|-------|------|
| Defectus. |    |    |    |      |                                      | Arcus |    |    |      |      |                                      | Defectus. |    |      |    |       |                                      | Arcus |      |
|           | g  | m  | fa | m fa |                                      | g     | m  | fa | m fa |      | g                                    | m         | fa | m fa |    | g     | m                                    | fa    | m fa |
| 1         | 0  | 59 | 40 | 0 6  |                                      | 31    | 30 | 48 | 42   | 3 27 |                                      | 61        | 60 | 26   | 19 | 10 14 |                                      |       |      |
| 2         | 1  | 59 | 21 | 0 12 |                                      | 32    | 31 | 48 | 15   | 3 34 |                                      | 62        | 61 | 24   | 55 | 10 28 |                                      |       |      |
| 3         | 2  | 59 | 1  | 0 18 |                                      | 33    | 32 | 47 | 48   | 3 43 |                                      | 63        | 62 | 23   | 25 | 11 7  |                                      |       |      |
| 4         | 3  | 58 | 41 | 0 24 |                                      | 34    | 33 | 47 | 19   | 3 52 |                                      | 64        | 63 | 21   | 50 | 11 34 |                                      |       |      |
| 5         | 4  | 58 | 21 | 0 30 |                                      | 35    | 34 | 46 | 30   | 4 1  |                                      | 65        | 64 | 20   | 6  | 12 5  |                                      |       |      |
| 6         | 5  | 58 | 1  | 0 36 |                                      | 36    | 35 | 46 | 20   | 4 10 |                                      | 66        | 65 | 18   | 16 | 12 38 |                                      |       |      |
| 7         | 6  | 57 | 41 | 0 41 |                                      | 37    | 36 | 45 | 30   | 4 19 |                                      | 67        | 66 | 16   | 17 | 13 12 |                                      |       |      |
| 8         | 7  | 57 | 21 | 0 49 |                                      | 38    | 37 | 45 | 19   | 4 28 |                                      | 68        | 67 | 14   | 9  | 13 51 |                                      |       |      |
| 9         | 8  | 57 | 1  | 0 54 |                                      | 39    | 38 | 44 | 46   | 4 39 |                                      | 69        | 68 | 11   | 48 | 14 32 |                                      |       |      |
| 10        | 9  | 56 | 40 | 1 1  |                                      | 40    | 39 | 44 | 14   | 4 48 |                                      | 70        | 69 | 9    | 17 | 15 17 |                                      |       |      |
| 11        | 10 | 56 | 20 | 1 7  |                                      | 41    | 40 | 43 | 40   | 4 59 |                                      | 71        | 70 | 6    | 31 | 16 4  |                                      |       |      |
| 12        | 11 | 56 | 0  | 1 14 |                                      | 42    | 41 | 41 | 5    | 5 9  |                                      | 72        | 71 | 3    | 29 | 16 58 |                                      |       |      |
| 13        | 12 | 55 | 40 | 1 20 |                                      | 43    | 42 | 41 | 29   | 5 21 |                                      | 73        | 72 | 0    | 6  | 17 57 |                                      |       |      |
| 14        | 13 | 55 | 18 | 1 27 |                                      | 44    | 43 | 41 | 52   | 5 31 |                                      | 74        | 73 | 56   | 21 | 19 1  |                                      |       |      |
| 15        | 14 | 54 | 58 | 1 32 |                                      | 45    | 44 | 41 | 13   | 5 41 |                                      | 75        | 74 | 52   | 13 | 20 12 |                                      |       |      |
| 16        | 15 | 54 | 36 | 1 39 |                                      | 46    | 45 | 40 | 34   | 5 55 |                                      | 76        | 75 | 47   | 32 | 21 31 |                                      |       |      |
| 17        | 16 | 54 | 15 | 1 45 |                                      | 47    | 46 | 39 | 52   | 6 8  |                                      | 77        | 76 | 42   | 14 | 22 0  |                                      |       |      |
| 18        | 17 | 53 | 54 | 1 51 |                                      | 48    | 47 | 39 | 9    | 6 21 |                                      | 78        | 77 | 36   | 11 | 24 41 |                                      |       |      |
| 19        | 18 | 53 | 33 | 1 58 |                                      | 49    | 48 | 38 | 25   | 6 35 |                                      | 79        | 78 | 29   | 17 | 26 11 |                                      |       |      |
| 20        | 19 | 53 | 9  | 2 6  |                                      | 50    | 49 | 37 | 48   | 6 49 |                                      | 80        | 79 | 21   | 13 | 28 40 |                                      |       |      |
| 21        | 20 | 52 | 47 | 2 11 |                                      | 51    | 50 | 36 | 34   | 7 4  |                                      | 81        | 80 | 11   | 50 | 31 4  |                                      |       |      |
| 22        | 21 | 52 | 24 | 2 19 |                                      | 52    | 51 | 36 | 0    | 7 18 |                                      | 82        | 81 | 0    | 41 | 33 44 |                                      |       |      |
| 23        | 22 | 52 | 1  | 2 26 |                                      | 53    | 52 | 35 | 7    | 7 34 |                                      | 83        | 82 | 47   | 25 | 36 54 |                                      |       |      |
| 24        | 23 | 51 | 37 | 2 34 |                                      | 54    | 53 | 34 | 18   | 7 51 |                                      | 84        | 83 | 40   | 21 | 40 23 |                                      |       |      |
| 25        | 24 | 51 | 14 | 2 41 |                                      | 55    | 54 | 33 | 15   | 8 8  |                                      | 85        | 84 | 31   | 11 | 44 17 |                                      |       |      |
| 26        | 25 | 50 | 50 | 2 48 |                                      | 56    | 55 | 32 | 5    | 8 27 |                                      | 86        | 85 | 22   | 5  | 48 25 |                                      |       |      |
| 27        | 26 | 50 | 25 | 2 55 |                                      | 57    | 56 | 31 | 11   | 8 46 |                                      | 87        | 86 | 17   | 40 | 52 36 |                                      |       |      |
| 28        | 27 | 49 | 59 | 3 4  |                                      | 58    | 57 | 30 | 4    | 9 6  |                                      | 88        | 87 | 10   | 27 | 56 23 |                                      |       |      |
| 29        | 28 | 49 | 34 | 3 10 |                                      | 59    | 58 | 28 | 54   | 9 27 |                                      | 89        | 88 | 5    | 57 | 59 1  |                                      |       |      |
| 30        | 29 | 49 | 9  | 3 19 |                                      | 60    | 59 | 27 | 48   | 9 50 |                                      | 90        | 89 | 0    | 0  | 60 0  |                                      |       |      |

TABLE

TABLE

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TABLE

| ARCUS    |    |    |    |            | ARCUS    |    |    |    |            | ARCUS    |    |    |    |            |
|----------|----|----|----|------------|----------|----|----|----|------------|----------|----|----|----|------------|
| Defectio |    |    |    |            | Defectio |    |    |    |            | Defectio |    |    |    |            |
| Arcus    |    |    |    |            | Arcus    |    |    |    |            | Arcus    |    |    |    |            |
| Defectio | g  | m  | fa | Rate ratio | Defectio | g  | m  | fa | Rate ratio | Defectio | g  | m  | fa | Rate ratio |
| 1        | 0  | 39 | 47 | 0 5        | 31       | 30 | 52 | 9  | 2 49       | 61       | 60 | 36 | 33 | 8 25       |
| 2        | 1  | 39 | 46 | 0 10       | 32       | 31 | 51 | 49 | 2 59       | 62       | 61 | 35 | 33 | 8 46       |
| 3        | 2  | 39 | 19 | 0 15       | 33       | 32 | 51 | 31 | 3 3        | 63       | 62 | 34 | 32 | 9 7        |
| 4        | 3  | 39 | 5  | 0 20       | 34       | 33 | 51 | 11 | 3 10       | 64       | 63 | 33 | 24 | 9 31       |
| 5        | 4  | 38 | 51 | 0 25       | 35       | 34 | 50 | 51 | 3 17       | 65       | 64 | 32 | 11 | 9 58       |
| 6        | 5  | 38 | 37 | 0 30       | 36       | 35 | 50 | 39 | 3 24       | 66       | 65 | 31 | 51 | 10 24      |
| 7        | 6  | 38 | 24 | 0 34       | 37       | 36 | 50 | 9  | 3 33       | 67       | 66 | 29 | 29 | 10 54      |
| 8        | 7  | 38 | 10 | 0 39       | 38       | 37 | 49 | 47 | 3 41       | 68       | 67 | 28 | 0  | 11 26      |
| 9        | 8  | 37 | 55 | 0 45       | 39       | 38 | 49 | 25 | 3 48       | 69       | 68 | 26 | 20 | 12 1       |
| 10       | 9  | 37 | 41 | 0 50       | 40       | 39 | 49 | 1  | 3 55       | 70       | 69 | 24 | 34 | 12 38      |
| 11       | 10 | 37 | 27 | 0 55       | 41       | 40 | 48 | 39 | 4 5        | 71       | 70 | 22 | 33 | 13 20      |
| 12       | 11 | 37 | 14 | 0 59       | 42       | 41 | 48 | 14 | 4 14       | 72       | 71 | 20 | 27 | 14 5       |
| 13       | 12 | 37 | 0  | 1 4        | 43       | 42 | 47 | 50 | 4 22       | 73       | 72 | 18 | 3  | 14 55      |
| 14       | 13 | 36 | 45 | 1 10       | 44       | 43 | 47 | 23 | 4 32       | 74       | 73 | 15 | 24 | 15 49      |
| 15       | 14 | 36 | 30 | 1 16       | 45       | 44 | 46 | 56 | 4 42       | 75       | 74 | 12 | 24 | 16 51      |
| 16       | 15 | 36 | 15 | 1 21       | 46       | 45 | 46 | 29 | 4 52       | 76       | 75 | 9  | 3  | 18 0       |
| 17       | 16 | 36 | 0  | 1 26       | 47       | 46 | 46 | 0  | 5 2        | 77       | 76 | 5  | 14 | 19 17      |
| 18       | 17 | 35 | 43 | 1 32       | 48       | 47 | 45 | 30 | 5 12       | 78       | 77 | 0  | 52 | 20 44      |
| 19       | 18 | 35 | 29 | 1 38       | 49       | 48 | 45 | 0  | 5 23       | 79       | 77 | 55 | 48 | 22 25      |
| 20       | 19 | 35 | 15 | 1 43       | 50       | 49 | 44 | 27 | 5 35       | 80       | 78 | 47 | 53 | 24 22      |
| 21       | 20 | 34 | 50 | 1 49       | 51       | 50 | 43 | 55 | 5 47       | 81       | 79 | 42 | 54 | 26 34      |
| 22       | 21 | 34 | 35 | 1 54       | 52       | 51 | 43 | 18 | 6 0        | 82       | 80 | 34 | 27 | 29 14      |
| 23       | 22 | 34 | 21 | 2 0        | 53       | 52 | 42 | 41 | 6 12       | 83       | 81 | 24 | 19 | 32 15      |
| 24       | 23 | 34 | 11 | 2 5        | 54       | 53 | 42 | 4  | 6 26       | 84       | 82 | 11 | 44 | 35 51      |
| 25       | 24 | 33 | 55 | 2 11       | 55       | 54 | 41 | 23 | 6 41       | 85       | 82 | 56 | 39 | 39 59      |
| 26       | 25 | 33 | 42 | 2 17       | 56       | 55 | 40 | 15 | 6 56       | 86       | 83 | 14 | 0  | 44 46      |
| 27       | 26 | 33 | 30 | 2 24       | 57       | 56 | 39 | 57 | 7 11       | 87       | 84 | 10 | 16 | 49 49      |
| 28       | 27 | 33 | 1  | 2 30       | 58       | 57 | 39 | 10 | 7 27       | 88       | 85 | 36 | 59 | 54 46      |
| 29       | 28 | 32 | 44 | 2 37       | 59       | 58 | 38 | 21 | 7 46       | 89       | 86 | 54 | 4  | 58 35      |
| 30       | 29 | 32 | 27 | 2 43       | 60       | 59 | 37 | 28 | 8 4        | 90       | 87 | 0  | 0  | 60 0       |

| ARCUS     |    |    |    |      | ARCUS     |    |    |    |      | ARCUS     |    |    |    |       |
|-----------|----|----|----|------|-----------|----|----|----|------|-----------|----|----|----|-------|
| Defectus. |    |    |    |      | Defectus. |    |    |    |      | Defectus. |    |    |    |       |
| Arcus     |    |    |    |      | Arcus     |    |    |    |      | Arcus     |    |    |    |       |
| Defectus. | g  | m  | fa | mi   | Defectus. | g  | m  | fa | mi   | Defectus. | g  | m  | fa | mi    |
| 1         | 0  | 39 | 51 | 0 4  | 11        | 30 | 54 | 38 | 2 12 | 61        | 60 | 44 | 38 | 6 14  |
| 2         | 1  | 50 | 44 | 0 7  | 12        | 41 | 54 | 46 | 2 17 | 62        | 61 | 44 | 19 | 6 50  |
| 3         | 2  | 50 | 44 | 0 11 | 13        | 52 | 54 | 44 | 2 22 | 63        | 62 | 44 | 39 | 7 9   |
| 4         | 3  | 50 | 51 | 0 15 | 14        | 53 | 54 | 21 | 2 29 | 64        | 63 | 42 | 55 | 7 27  |
| 5         | 4  | 50 | 51 | 0 19 | 15        | 54 | 50 | 46 | 2 34 | 65        | 64 | 42 | 59 | 7 48  |
| 6         | 5  | 50 | 51 | 0 23 | 16        | 55 | 54 | 38 | 2 40 | 66        | 65 | 41 | 18 | 8 9   |
| 7         | 6  | 58 | 51 | 0 27 | 17        | 56 | 54 | 46 | 2 45 | 67        | 66 | 40 | 23 | 8 34  |
| 8         | 7  | 58 | 51 | 0 31 | 18        | 57 | 54 | 45 | 2 51 | 68        | 67 | 39 | 26 | 8 57  |
| 9         | 8  | 58 | 51 | 0 35 | 19        | 58 | 54 | 44 | 2 58 | 69        | 68 | 38 | 21 | 9 26  |
| 10        | 9  | 58 | 51 | 0 39 | 20        | 59 | 54 | 47 | 3 4  | 70        | 69 | 37 | 12 | 9 55  |
| 11        | 10 | 58 | 51 | 0 43 | 21        | 60 | 54 | 44 | 3 10 | 71        | 70 | 35 | 25 | 10 28 |
| 12        | 11 | 58 | 51 | 0 47 | 22        | 61 | 54 | 44 | 3 17 | 72        | 71 | 34 | 12 | 11 4  |
| 13        | 12 | 58 | 51 | 0 51 | 23        | 62 | 54 | 44 | 3 25 | 73        | 72 | 32 | 58 | 11 44 |
| 14        | 13 | 57 | 55 | 0 55 | 24        | 63 | 54 | 43 | 3 32 | 74        | 73 | 31 | 18 | 12 10 |
| 15        | 14 | 57 | 50 | 0 58 | 25        | 64 | 54 | 41 | 3 39 | 75        | 74 | 29 | 15 | 13 18 |
| 16        | 15 | 57 | 50 | 1 3  | 26        | 65 | 54 | 41 | 3 46 | 76        | 75 | 27 | 4  | 14 16 |
| 17        | 16 | 57 | 50 | 1 7  | 27        | 66 | 54 | 40 | 3 55 | 77        | 76 | 24 | 31 | 15 20 |
| 18        | 17 | 57 | 50 | 1 11 | 28        | 67 | 54 | 41 | 4 4  | 78        | 77 | 21 | 16 | 16 34 |
| 19        | 18 | 57 | 51 | 1 15 | 29        | 68 | 54 | 39 | 4 12 | 79        | 78 | 18 | 13 | 17 58 |
| 20        | 19 | 56 | 50 | 1 19 | 30        | 69 | 54 | 40 | 4 21 | 80        | 79 | 14 | 15 | 19 36 |
| 21        | 20 | 56 | 48 | 1 24 | 31        | 70 | 54 | 42 | 4 30 | 81        | 80 | 9  | 28 | 21 33 |
| 22        | 21 | 56 | 49 | 1 29 | 32        | 71 | 54 | 40 | 4 41 | 82        | 81 | 5  | 42 | 23 51 |
| 23        | 22 | 56 | 49 | 1 33 | 33        | 72 | 54 | 37 | 4 51 | 83        | 82 | 56 | 34 | 26 40 |
| 24        | 23 | 56 | 50 | 1 38 | 34        | 73 | 54 | 34 | 5 2  | 84        | 83 | 47 | 15 | 28 5  |
| 25        | 24 | 56 | 49 | 1 44 | 35        | 74 | 54 | 34 | 5 11 | 85        | 84 | 44 | 46 | 31 16 |
| 26        | 25 | 55 | 49 | 1 47 | 36        | 75 | 54 | 30 | 5 23 | 86        | 85 | 39 | 19 | 32 19 |
| 27        | 26 | 55 | 49 | 1 52 | 37        | 76 | 54 | 29 | 5 37 | 87        | 86 | 31 | 40 | 45 27 |
| 28        | 27 | 55 | 48 | 1 56 | 38        | 77 | 54 | 30 | 5 52 | 88        | 87 | 31 | 45 | 51 49 |
| 29        | 28 | 55 | 49 | 2 2  | 39        | 78 | 54 | 25 | 6 3  | 89        | 88 | 52 | 39 | 57 30 |
| 30        | 29 | 55 | 48 | 2 7  | 40        | 79 | 54 | 26 | 6 18 | 90        | 89 | 0  | 0  | 60 0  |

| ARCUS    |    |    |    |            | ARCUS    |    |    |    |            | ARCUS    |    |    |    |            |
|----------|----|----|----|------------|----------|----|----|----|------------|----------|----|----|----|------------|
| Defectus |    |    |    |            | Defectus |    |    |    |            | Defectus |    |    |    |            |
| g        | m  | mi | fa | Lat. ratio | g        | m  | mi | fa | Lat. ratio | g        | m  | mi | fa | Lat. ratio |
| 1        | 0  | 59 | 55 | 0 2        | 31       | 30 | 57 | 10 | 1 34       | 61       | 60 | 51 | 32 | 1 42       |
| 2        | 1  | 59 | 55 | 0 6        | 32       | 31 | 57 | 3  | 1 38       | 62       | 61 | 51 | 30 | 1 35       |
| 3        | 2  | 59 | 45 | 0 9        | 33       | 32 | 56 | 37 | 1 42       | 63       | 62 | 50 | 48 | 5 7        |
| 4        | 3  | 59 | 40 | 0 11       | 34       | 33 | 56 | 30 | 1 45       | 64       | 63 | 50 | 22 | 5 20       |
| 5        | 4  | 59 | 35 | 0 14       | 35       | 34 | 56 | 42 | 1 50       | 65       | 64 | 49 | 37 | 5 35       |
| 6        | 5  | 59 | 30 | 0 17       | 36       | 35 | 56 | 34 | 1 54       | 66       | 65 | 49 | 27 | 5 51       |
| 7        | 6  | 59 | 25 | 0 19       | 37       | 36 | 56 | 27 | 1 59       | 67       | 66 | 48 | 50 | 6 8        |
| 8        | 7  | 59 | 20 | 0 22       | 38       | 37 | 56 | 19 | 2 3        | 68       | 67 | 48 | 33 | 6 16       |
| 9        | 8  | 59 | 15 | 0 25       | 39       | 38 | 56 | 11 | 2 7        | 69       | 68 | 47 | 47 | 6 48       |
| 10       | 9  | 59 | 10 | 0 27       | 40       | 39 | 56 | 1  | 2 13       | 70       | 69 | 47 | 20 | 7 9        |
| 11       | 10 | 59 | 5  | 0 30       | 41       | 40 | 55 | 54 | 2 17       | 71       | 70 | 46 | 23 | 7 33       |
| 12       | 11 | 59 | 0  | 0 34       | 42       | 41 | 55 | 45 | 2 22       | 72       | 71 | 45 | 36 | 7 58       |
| 13       | 12 | 58 | 55 | 0 36       | 43       | 42 | 55 | 37 | 2 26       | 73       | 72 | 44 | 42 | 8 25       |
| 14       | 13 | 58 | 50 | 0 39       | 44       | 43 | 55 | 27 | 2 32       | 74       | 73 | 43 | 43 | 9 1        |
| 15       | 14 | 58 | 44 | 0 42       | 45       | 44 | 55 | 17 | 2 36       | 75       | 74 | 42 | 33 | 9 39       |
| 16       | 15 | 58 | 39 | 0 45       | 46       | 45 | 55 | 7  | 2 41       | 76       | 75 | 41 | 19 | 10 20      |
| 17       | 16 | 58 | 33 | 0 48       | 47       | 46 | 54 | 57 | 2 48       | 77       | 76 | 39 | 54 | 11 8       |
| 18       | 17 | 58 | 28 | 0 51       | 48       | 47 | 54 | 46 | 2 53       | 78       | 77 | 38 | 10 | 12 3       |
| 19       | 18 | 58 | 22 | 0 54       | 49       | 48 | 54 | 35 | 3 0        | 79       | 78 | 36 | 11 | 13 7       |
| 20       | 19 | 58 | 17 | 0 57       | 50       | 49 | 54 | 23 | 3 7        | 80       | 79 | 33 | 31 | 14 24      |
| 21       | 20 | 58 | 12 | 1 0        | 51       | 50 | 54 | 12 | 3 13       | 81       | 80 | 31 | 1  | 15 55      |
| 22       | 21 | 58 | 6  | 1 3        | 52       | 51 | 53 | 59 | 3 20       | 82       | 81 | 27 | 15 | 17 45      |
| 23       | 22 | 58 | 0  | 1 7        | 53       | 52 | 53 | 44 | 3 29       | 83       | 82 | 23 | 14 | 20 3       |
| 24       | 23 | 57 | 54 | 1 10       | 54       | 53 | 53 | 32 | 3 35       | 84       | 83 | 17 | 40 | 22 56      |
| 25       | 24 | 57 | 49 | 1 12       | 55       | 54 | 53 | 17 | 3 44       | 85       | 84 | 10 | 16 | 26 43      |
| 26       | 25 | 57 | 42 | 1 17       | 56       | 55 | 53 | 1  | 3 54       | 86       | 85 | 0  | 5  | 31 40      |
| 27       | 26 | 57 | 36 | 1 20       | 57       | 56 | 52 | 45 | 4 1        | 87       | 86 | 45 | 22 | 38 12      |
| 28       | 27 | 57 | 29 | 1 24       | 58       | 57 | 52 | 29 | 4 11       | 88       | 86 | 23 | 44 | 46 37      |
| 29       | 28 | 57 | 23 | 1 26       | 59       | 58 | 52 | 10 | 4 21       | 89       | 86 | 50 | 18 | 55 36      |
| 30       | 29 | 57 | 17 | 1 31       | 60       | 59 | 51 | 50 | 4 32       | 90       | 87 | 0  | 0  | 60 0       |



| ARCUS     |    |    |    |      | ARCUS     |    |    |    |      | ARCUS     |    |    |    |       |
|-----------|----|----|----|------|-----------|----|----|----|------|-----------|----|----|----|-------|
| Defectus. |    |    |    |      | Defectus. |    |    |    |      | Defectus. |    |    |    |       |
| Arcus     |    |    |    |      | Arcus     |    |    |    |      | Arcus     |    |    |    |       |
| Defectus. | g  | m  | fa | m fa | Defectus. | g  | m  | fa | m fa | Defectus. | g  | m  | fa | m fa  |
| 1         | 0  | 50 | 58 | 0 2  | 31        | 30 | 58 | 44 | 0 57 | 61        | 60 | 56 | 14 | 2 49  |
| 2         | 1  | 50 | 56 | 0 3  | 32        | 31 | 58 | 41 | 0 59 | 62        | 61 | 54 | 4  | 2 57  |
| 3         | 2  | 50 | 54 | 0 4  | 33        | 32 | 58 | 39 | 1 1  | 63        | 62 | 52 | 55 | 3 4   |
| 4         | 3  | 50 | 52 | 0 7  | 34        | 33 | 58 | 35 | 1 4  | 64        | 63 | 50 | 42 | 3 13  |
| 5         | 4  | 50 | 49 | 0 8  | 35        | 34 | 58 | 32 | 1 6  | 65        | 64 | 55 | 32 | 3 22  |
| 6         | 5  | 50 | 47 | 0 10 | 36        | 35 | 58 | 28 | 1 8  | 66        | 65 | 55 | 18 | 3 31  |
| 7         | 6  | 50 | 44 | 0 12 | 37        | 36 | 58 | 26 | 1 11 | 67        | 66 | 55 | 5  | 3 41  |
| 8         | 7  | 50 | 42 | 0 13 | 38        | 37 | 58 | 22 | 1 13 | 68        | 67 | 54 | 49 | 3 51  |
| 9         | 8  | 50 | 40 | 0 15 | 39        | 38 | 58 | 18 | 1 16 | 69        | 68 | 54 | 15 | 4 5   |
| 10        | 9  | 50 | 37 | 0 17 | 40        | 39 | 58 | 14 | 1 19 | 70        | 69 | 54 | 16 | 4 18  |
| 11        | 10 | 50 | 35 | 0 18 | 41        | 40 | 58 | 11 | 1 22 | 71        | 70 | 53 | 56 | 4 31  |
| 12        | 11 | 50 | 34 | 0 20 | 42        | 41 | 58 | 7  | 1 24 | 72        | 71 | 53 | 38 | 4 40  |
| 13        | 12 | 50 | 31 | 0 22 | 43        | 42 | 58 | 3  | 1 28 | 73        | 72 | 53 | 10 | 5 6   |
| 14        | 13 | 50 | 29 | 0 24 | 44        | 43 | 57 | 59 | 1 31 | 74        | 73 | 52 | 44 | 5 16  |
| 15        | 14 | 50 | 26 | 0 26 | 45        | 44 | 57 | 51 | 1 35 | 75        | 74 | 52 | 12 | 5 31  |
| 16        | 15 | 50 | 24 | 0 27 | 46        | 45 | 57 | 50 | 1 38 | 76        | 75 | 51 | 39 | 6 16  |
| 17        | 16 | 50 | 21 | 0 29 | 47        | 46 | 57 | 45 | 1 41 | 77        | 76 | 50 | 59 | 6 45  |
| 18        | 17 | 50 | 19 | 0 30 | 48        | 47 | 57 | 39 | 1 45 | 78        | 77 | 50 | 13 | 7 20  |
| 19        | 18 | 50 | 16 | 0 32 | 49        | 48 | 57 | 35 | 1 49 | 79        | 78 | 49 | 58 | 7 59  |
| 20        | 19 | 50 | 14 | 0 35 | 50        | 49 | 57 | 30 | 1 52 | 80        | 79 | 48 | 15 | 8 47  |
| 21        | 20 | 50 | 12 | 0 37 | 51        | 50 | 57 | 25 | 1 57 | 81        | 80 | 46 | 56 | 9 46  |
| 22        | 21 | 50 | 9  | 0 40 | 52        | 51 | 57 | 19 | 2 1  | 82        | 81 | 45 | 20 | 10 58 |
| 23        | 22 | 50 | 7  | 0 39 | 53        | 52 | 57 | 13 | 2 5  | 83        | 82 | 43 | 17 | 12 30 |
| 24        | 23 | 50 | 4  | 0 41 | 54        | 53 | 57 | 7  | 2 10 | 84        | 83 | 40 | 16 | 14 27 |
| 25        | 24 | 50 | 1  | 0 45 | 55        | 54 | 57 | 1  | 2 14 | 85        | 84 | 36 | 59 | 17 5  |
| 26        | 25 | 58 | 59 | 0 46 | 56        | 55 | 56 | 55 | 2 19 | 86        | 85 | 31 | 45 | 20 54 |
| 27        | 26 | 58 | 56 | 0 48 | 57        | 56 | 56 | 46 | 2 25 | 87        | 86 | 23 | 44 | 26 34 |
| 28        | 27 | 58 | 53 | 0 50 | 58        | 57 | 56 | 40 | 2 30 | 88        | 87 | 10 | 21 | 35 33 |
| 29        | 28 | 58 | 49 | 0 51 | 59        | 58 | 56 | 31 | 2 37 | 89        | 87 | 45 | 54 | 49 10 |
| 30        | 29 | 58 | 48 | 0 54 | 60        | 59 | 56 | 22 | 2 43 | 90        | 88 | 0  | 0  | 60 0  |

| ARCUS    |   |    |    |    | Diff<br>fere-<br>tia<br>Late-<br>ratio. | ARCUS |    |    |    |    | Diff<br>fere-<br>tia<br>Late-<br>ratio. | ARCUS    |    |    |    |       | Diff<br>fere-<br>tia<br>Late-<br>ratio. |       |    |    |       |      |    |    |    |      |  |
|----------|---|----|----|----|---|-------|----|----|----|----|---|----------|----|----|----|-------|---|-------|----|----|-------|------|----|----|----|------|--|
| Defectus |   |    |    |    |   | Arcus |    |    |    |    |   | Defectus |    |    |    |       |   | Arcus |    |    |       |      |    |    |    |      |  |
|          | R | G  | m  | Pa |   | R     | G  | m  | Pa |    | R                                       | G        | m  | Pa |    | R     | G                                       | m     | Pa |    | R     | G    | m  | Pa |    |      |  |
| 1        | 1 | 1  | 0  | 59 | 59                                      | 0 0   | 11 | 30 | 59 | 59 | 0 19                                    | 61       | 60 | 59 | 59 | 0 57  | 71                                      | 60    | 59 | 59 | 0 57  | 81   | 80 | 59 | 59 | 0 57 |  |
| 2        | 1 | 1  | 30 | 59 | 59                                      | 0 1   | 12 | 11 | 59 | 40 | 0 20                                    | 62       | 61 | 59 | 59 | 0 59  | 72                                      | 61    | 59 | 59 | 0 59  | 82   | 81 | 59 | 59 | 0 59 |  |
| 3        | 1 | 2  | 30 | 58 | 58                                      | 0 2   | 13 | 12 | 59 | 40 | 0 20                                    | 63       | 62 | 58 | 59 | 1 1   | 73                                      | 62    | 58 | 59 | 1 1   | 83   | 82 | 58 | 59 | 1 1  |  |
| 4        | 1 | 3  | 59 | 58 | 58                                      | 0 2   | 14 | 13 | 59 | 39 | 0 21                                    | 64       | 63 | 58 | 59 | 1 5   | 74                                      | 63    | 58 | 59 | 1 5   | 84   | 83 | 58 | 59 | 1 5  |  |
| 5        | 1 | 4  | 59 | 57 | 57                                      | 0 3   | 15 | 14 | 59 | 38 | 0 22                                    | 65       | 64 | 58 | 54 | 1 6   | 75                                      | 64    | 58 | 54 | 1 6   | 85   | 84 | 58 | 54 | 1 6  |  |
| 6        | 1 | 5  | 59 | 57 | 57                                      | 0 3   | 16 | 15 | 59 | 36 | 0 24                                    | 66       | 65 | 58 | 57 | 1 11  | 76                                      | 65    | 58 | 57 | 1 11  | 86   | 85 | 58 | 57 | 1 11 |  |
| 7        | 1 | 6  | 59 | 56 | 56                                      | 0 4   | 17 | 16 | 59 | 37 | 0 21                                    | 67       | 66 | 58 | 56 | 1 14  | 77                                      | 66    | 58 | 56 | 1 14  | 87   | 86 | 58 | 56 | 1 14 |  |
| 8        | 1 | 7  | 59 | 55 | 55                                      | 0 5   | 18 | 17 | 59 | 35 | 0 25                                    | 68       | 67 | 58 | 42 | 1 18  | 78                                      | 67    | 58 | 42 | 1 18  | 88   | 87 | 58 | 42 | 1 18 |  |
| 9        | 1 | 8  | 59 | 55 | 55                                      | 0 5   | 19 | 18 | 59 | 34 | 0 26                                    | 69       | 68 | 58 | 40 | 1 20  | 79                                      | 68    | 58 | 40 | 1 20  | 89   | 88 | 58 | 40 | 1 20 |  |
| 10       | 1 | 9  | 59 | 54 | 54                                      | 0 6   | 20 | 19 | 59 | 33 | 0 27                                    | 70       | 69 | 58 | 34 | 1 26  | 80                                      | 69    | 58 | 34 | 1 26  | 90   | 89 | 58 | 34 | 1 26 |  |
| 11       | 1 | 10 | 59 | 54 | 54                                      | 0 7   | 21 | 20 | 59 | 32 | 0 27                                    | 71       | 70 | 58 | 27 | 1 31  | 81                                      | 70    | 58 | 27 | 1 31  | 91   | 90 | 58 | 27 | 1 31 |  |
| 12       | 1 | 11 | 59 | 54 | 54                                      | 0 6   | 22 | 21 | 59 | 31 | 0 29                                    | 72       | 71 | 58 | 21 | 1 37  | 82                                      | 71    | 58 | 21 | 1 37  | 92   | 91 | 58 | 21 | 1 37 |  |
| 13       | 1 | 12 | 59 | 53 | 53                                      | 0 7   | 23 | 22 | 59 | 31 | 0 29                                    | 73       | 72 | 58 | 16 | 1 41  | 83                                      | 72    | 58 | 16 | 1 41  | 93   | 92 | 58 | 16 | 1 41 |  |
| 14       | 1 | 13 | 59 | 53 | 53                                      | 0 7   | 24 | 23 | 59 | 30 | 0 30                                    | 74       | 73 | 58 | 10 | 1 50  | 84                                      | 73    | 58 | 10 | 1 50  | 94   | 93 | 58 | 10 | 1 50 |  |
| 15       | 1 | 14 | 59 | 52 | 52                                      | 0 8   | 25 | 24 | 59 | 28 | 0 32                                    | 75       | 74 | 58 | 3  | 1 57  | 85                                      | 74    | 58 | 3  | 1 57  | 95   | 94 | 58 | 3  | 1 57 |  |
| 16       | 1 | 15 | 59 | 51 | 51                                      | 0 9   | 26 | 25 | 59 | 28 | 0 32                                    | 76       | 75 | 57 | 52 | 2 5   | 86                                      | 75    | 57 | 52 | 2 5   | 96   | 95 | 57 | 52 | 2 5  |  |
| 17       | 1 | 16 | 59 | 50 | 50                                      | 0 10  | 27 | 26 | 59 | 26 | 0 34                                    | 77       | 76 | 57 | 44 | 2 16  | 87                                      | 76    | 57 | 44 | 2 16  | 97   | 96 | 57 | 44 | 2 16 |  |
| 18       | 1 | 17 | 59 | 49 | 49                                      | 0 11  | 28 | 27 | 59 | 24 | 0 36                                    | 78       | 77 | 57 | 34 | 2 27  | 88                                      | 77    | 57 | 34 | 2 27  | 98   | 97 | 57 | 34 | 2 27 |  |
| 19       | 1 | 18 | 59 | 48 | 48                                      | 0 12  | 29 | 28 | 59 | 23 | 0 36                                    | 79       | 78 | 57 | 27 | 2 41  | 89                                      | 78    | 57 | 27 | 2 41  | 99   | 98 | 57 | 27 | 2 41 |  |
| 20       | 1 | 19 | 59 | 48 | 48                                      | 0 11  | 30 | 29 | 59 | 22 | 0 38                                    | 80       | 79 | 57 | 2  | 2 58  | 90                                      | 79    | 57 | 2  | 2 58  | 100  | 99 | 57 | 2  | 2 58 |  |
| 21       | 1 | 20 | 59 | 49 | 49                                      | 0 11  | 31 | 30 | 59 | 21 | 0 38                                    | 81       | 80 | 56 | 42 | 3 18  | 91                                      | 80    | 56 | 42 | 3 18  |      |    |    |    |      |  |
| 22       | 1 | 21 | 59 | 49 | 49                                      | 0 11  | 32 | 31 | 59 | 20 | 0 40                                    | 82       | 81 | 56 | 18 | 3 42  | 92                                      | 81    | 56 | 18 | 3 42  |      |    |    |    |      |  |
| 23       | 1 | 22 | 59 | 46 | 46                                      | 0 14  | 33 | 32 | 59 | 18 | 0 41                                    | 83       | 82 | 55 | 17 | 4 13  | 93                                      | 82    | 55 | 17 | 4 13  |      |    |    |    |      |  |
| 24       | 1 | 23 | 59 | 45 | 45                                      | 0 15  | 34 | 33 | 59 | 17 | 0 41                                    | 84       | 83 | 55 | 3  | 4 57  | 94                                      | 83    | 55 | 3  | 4 57  |      |    |    |    |      |  |
| 25       | 1 | 24 | 59 | 46 | 46                                      | 0 14  | 35 | 34 | 59 | 15 | 0 45                                    | 85       | 84 | 54 | 4  | 5 56  | 95                                      | 84    | 54 | 4  | 5 56  |      |    |    |    |      |  |
| 26       | 1 | 25 | 59 | 45 | 45                                      | 0 15  | 36 | 35 | 59 | 14 | 0 46                                    | 86       | 85 | 53 | 39 | 7 31  | 96                                      | 85    | 53 | 39 | 7 31  |      |    |    |    |      |  |
| 27       | 1 | 26 | 59 | 44 | 44                                      | 0 16  | 37 | 36 | 59 | 11 | 0 47                                    | 87       | 86 | 53 | 36 | 9 42  | 97                                      | 86    | 53 | 36 | 9 42  |      |    |    |    |      |  |
| 28       | 1 | 27 | 59 | 43 | 43                                      | 0 17  | 38 | 37 | 59 | 10 | 0 50                                    | 88       | 87 | 45 | 34 | 14 6  | 98                                      | 87    | 45 | 34 | 14 6  |      |    |    |    |      |  |
| 29       | 1 | 28 | 59 | 42 | 42                                      | 0 18  | 39 | 38 | 59 | 8  | 0 51                                    | 89       | 88 | 45 | 24 | 24 56 | 99                                      | 88    | 45 | 24 | 24 56 |      |    |    |    |      |  |
| 30       | 1 | 29 | 59 | 42 | 42                                      | 0 18  | 40 | 39 | 59 | 5  | 0 55                                    | 90       | 89 | 0  | 0  | 60 0  |   | 90    | 89 | 0  | 0     | 60 0 |    |    |    |      |  |

| ARCUS    |  |       |   |    |      | ARCUS    |  |       |   |    |      | ARCUS    |  |       |   |    |      |
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| Decidit. |  | Arcus |   |    |      | Decidit. |  | Arcus |   |    |      | Decidit. |  | Arcus |   |    |      |
|          |  | g     | m | fa | m fa |          |  | g     | m | fa | m fa |          |  | g     | m | fa | m fa |
| 1        |  | 1     | 0 | 0  | 0 0  | 11       |  | 11    | 0 | 0  | 0 0  | 61       |  | 61    | 0 | 0  | 0 0  |
| 2        |  | 2     | 0 | 0  | 0 0  | 12       |  | 12    | 0 | 0  | 0 0  | 62       |  | 62    | 0 | 0  | 0 0  |
| 3        |  | 3     | 0 | 0  | 0 0  | 13       |  | 13    | 0 | 0  | 0 0  | 63       |  | 63    | 0 | 0  | 0 0  |
| 4        |  | 4     | 0 | 0  | 0 0  | 14       |  | 14    | 0 | 0  | 0 0  | 64       |  | 64    | 0 | 0  | 0 0  |
| 5        |  | 5     | 0 | 0  | 0 0  | 15       |  | 15    | 0 | 0  | 0 0  | 65       |  | 65    | 0 | 0  | 0 0  |
| 6        |  | 6     | 0 | 0  | 0 0  | 16       |  | 16    | 0 | 0  | 0 0  | 66       |  | 66    | 0 | 0  | 0 0  |
| 7        |  | 7     | 0 | 0  | 0 0  | 17       |  | 17    | 0 | 0  | 0 0  | 67       |  | 67    | 0 | 0  | 0 0  |
| 8        |  | 8     | 0 | 0  | 0 0  | 18       |  | 18    | 0 | 0  | 0 0  | 68       |  | 68    | 0 | 0  | 0 0  |
| 9        |  | 9     | 0 | 0  | 0 0  | 19       |  | 19    | 0 | 0  | 0 0  | 69       |  | 69    | 0 | 0  | 0 0  |
| 10       |  | 10    | 0 | 0  | 0 0  | 20       |  | 20    | 0 | 0  | 0 0  | 70       |  | 70    | 0 | 0  | 0 0  |
| 11       |  | 11    | 0 | 0  | 0 0  | 21       |  | 21    | 0 | 0  | 0 0  | 71       |  | 71    | 0 | 0  | 0 0  |
| 12       |  | 12    | 0 | 0  | 0 0  | 22       |  | 22    | 0 | 0  | 0 0  | 72       |  | 72    | 0 | 0  | 0 0  |
| 13       |  | 13    | 0 | 0  | 0 0  | 23       |  | 23    | 0 | 0  | 0 0  | 73       |  | 73    | 0 | 0  | 0 0  |
| 14       |  | 14    | 0 | 0  | 0 0  | 24       |  | 24    | 0 | 0  | 0 0  | 74       |  | 74    | 0 | 0  | 0 0  |
| 15       |  | 15    | 0 | 0  | 0 0  | 25       |  | 25    | 0 | 0  | 0 0  | 75       |  | 75    | 0 | 0  | 0 0  |
| 16       |  | 16    | 0 | 0  | 0 0  | 26       |  | 26    | 0 | 0  | 0 0  | 76       |  | 76    | 0 | 0  | 0 0  |
| 17       |  | 17    | 0 | 0  | 0 0  | 27       |  | 27    | 0 | 0  | 0 0  | 77       |  | 77    | 0 | 0  | 0 0  |
| 18       |  | 18    | 0 | 0  | 0 0  | 28       |  | 28    | 0 | 0  | 0 0  | 78       |  | 78    | 0 | 0  | 0 0  |
| 19       |  | 19    | 0 | 0  | 0 0  | 29       |  | 29    | 0 | 0  | 0 0  | 79       |  | 79    | 0 | 0  | 0 0  |
| 20       |  | 20    | 0 | 0  | 0 0  | 30       |  | 30    | 0 | 0  | 0 0  | 80       |  | 80    | 0 | 0  | 0 0  |
| 21       |  | 21    | 0 | 0  | 0 0  | 31       |  | 31    | 0 | 0  | 0 0  | 81       |  | 81    | 0 | 0  | 0 0  |
| 22       |  | 22    | 0 | 0  | 0 0  | 32       |  | 32    | 0 | 0  | 0 0  | 82       |  | 82    | 0 | 0  | 0 0  |
| 23       |  | 23    | 0 | 0  | 0 0  | 33       |  | 33    | 0 | 0  | 0 0  | 83       |  | 83    | 0 | 0  | 0 0  |
| 24       |  | 24    | 0 | 0  | 0 0  | 34       |  | 34    | 0 | 0  | 0 0  | 84       |  | 84    | 0 | 0  | 0 0  |
| 25       |  | 25    | 0 | 0  | 0 0  | 35       |  | 35    | 0 | 0  | 0 0  | 85       |  | 85    | 0 | 0  | 0 0  |
| 26       |  | 26    | 0 | 0  | 0 0  | 36       |  | 36    | 0 | 0  | 0 0  | 86       |  | 86    | 0 | 0  | 0 0  |
| 27       |  | 27    | 0 | 0  | 0 0  | 37       |  | 37    | 0 | 0  | 0 0  | 87       |  | 87    | 0 | 0  | 0 0  |
| 28       |  | 28    | 0 | 0  | 0 0  | 38       |  | 38    | 0 | 0  | 0 0  | 88       |  | 88    | 0 | 0  | 0 0  |
| 29       |  | 29    | 0 | 0  | 0 0  | 39       |  | 39    | 0 | 0  | 0 0  | 89       |  | 89    | 0 | 0  | 0 0  |
| 30       |  | 30    | 0 | 0  | 0 0  | 40       |  | 40    | 0 | 0  | 0 0  | 90       |  | 90    | 0 | 0  | 0 0  |

Abſolutum eſt hoc illuſtre Tabularum Eclypſium & Primi mobilis opus  
Arte & Induſtria ſolertis viri Ioannis Winterburger,

Impenſis vero Leonardi & Lucae alantſe fratrum

Ciuitatum Viennenſium

Anno Chriſti. 1514.

Idibus Aprilibus,

Elimatum denovo & re-

cogitatum Summa cum diligentia

a GEORGIO Tannſtetter Collimitio

Artium & Medicinæ doctore Necnon Aſtronomiæ et

Profeſſore ordinario VIENNÆ AVSTRIÆ.

IMPERANTE INVICTISS. ROMANORVM IMPERA  
TORE MAXIMILIANO CABS. AVG. P. F. P. P.

*ſocii Venetiarum Capuſianorum.*













